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[*SGML Version See Change Record*]
TECHNICAL MANUAL

BULK MILK DISPENSERS

MECHANICALLY REFRIGERATED
SIZES 1, 2 AND 3

PUBLISHED BY DIRECTION OF COMMANDER, NAVAL SEA SYSTEMS COMMAND

RECORD OF CHANGES

CHANGE NO.	DATE	TITLE OR BRIEF DESCRIPTION	ENTERED BY

NOTE

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CHAPTER 1

SECTION 1

GENERAL INFORMATION

Norris Manhattan Bulk Milk Dispensers are refrigerated cabinets with a valve mechanism designed to dispense milk or fluid milk products from single service or multi-service containers in a sanitary manner.

SECTION 2

DESCRIPTION

Norris Manhattan Dispensers are designed to permit the dispensing of bulk milk, in controlled portions, at either an adjustable temperature or pre-adjusted 37-38 F.

The dispensers are basically stainless steel cabinets with front loading doors and dispensing valves located in the front of the unit. The cabinet and door are insulated with high density insulation and refrigerated by heavy duty, air cooled, hermetically sealed compressors which operate on 100-115 volts, AC, 50/60 cycle, single phase.

Dispensers are produced in three (3) models -- one (1) container, two (2) container, and three (3) container. Each model carries a serial plate showing manufacturer, model, refrigerant, and other pertinent data. The following listing shows the physical dimensions, approximate weight, and compressor rating (horsepower) of each model.

All Norris Manhattan Dispensers meet nationally recognized standards for health, sanitation, safety, and mechanical operation. These include U.S. Department of Public Health Requirements, Underwriters' Laboratories Standards, Federal Spec 00-D-450, Military Standard MIL-STD-175 and National Sanitation Foundation Standard No. 20.

Dispenser Specifications

MODEL	CAPACITY (CONTAINERS)	PHYSICAL DIMENSIONS			APPROX. WT.	COMPRESSOR RATING (HP)
		HEIGHT	WIDTH	DEPTH		
N-5-M	1	39 1/4″	14 1/8″	17 1/4″	98 lbs.	1/8
N-10-M	2	39 1/4″	25 1/8″	17 1/4″	132 lbs.	1/8
N-15-M	3	39 1/4″	36 1/8″	17 1/4″	143 lbs.	1/5
N-10-MRL	2	42 7/16″	25 1/8″	19 1/8″	148 lbs.	1/8
N-15-MRL	3	42 7/16″	36 1/8″	19 1/8″	182 lbs.	1/5

SECTION 3

INSTALLATION

INSPECTION FOR DAMAGE

Upon receiving unit, inspect exterior of container for damage and note such. Uncrate unit at once, examine and test for damage. Report any damage to transportation company and file claim promptly. Your immediate inspection protects you because we are not responsible for damages incurred during transit.

Within the dispenser cabinet is the carton containing the dispenser accessories including the four (4) legs. Thread the legs into the four (4) tapped holes located in the extreme corners of the base and tighten until top of the leg is snug against the base. With legs installed, peel protective covering from the exterior stainless steel. The unit is now ready to be connected to the power source outlet.

Site selection should be chosen with convenience in mind. Correct serving height is important so that those drawing milk can open and close valves easily. Place the dispenser on a solid counter, shelf, or platform.

CAUTION

Do not place dispenser too near ovens, coffee urns, etc., which give off heat and could greatly reduce the performance of the refrigeration unit.

CAUTION

Under no circumstances should the legs be removed and the dispenser allowed to sit directly on the counter, shelf, or platform. The air space created by the legs under the dispenser is absolutely necessary for the proper cooling of the condenser and efficient operation of the refrigeration unit. Likewise, the opening at the top rear of the dispenser should not be blocked as this opening serves as an outlet circulating through the compressor and condenser area.

The power requirement for the refrigeration unit is 100-115 volts, AC, 50/60 cycle, single phase. The power source cord is furnished with a 3-prong attachment plug. This plug is designed to fit a receptacle with provisions for a grounding stud. Plug power source cord into power outlet receptacle and dispenser is ready for use.

For optimum cooling, allow dispenser to run for approximately one (1) hour before placing containers of milk in cabinet.

SECTION 4
OPERATION

OPERATING INSTRUCTIONS FOR NORRIS ″MANHATTAN″ MODELS

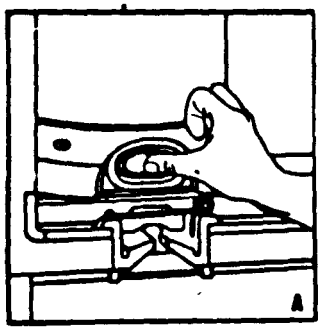
VALVE MECHANISM The ″Manhattan″ valve is designed to meet and has the approval of NSF Standards. It is of die-casted, chrome-plated construction with the standard lift-type weighed ball action. The outstanding features are:

1. Single piece construction. All surfaces are easily accessible for daily cleaning.
2. The dispensing end of the milk tube is protected by a shield on the valve that completely encloses it when in use. This shield also diverts any foreign matter from entering the glass container during the dispensing operation.
3. No thumbscrews are required to attach valve to cabinet. The valve rotates on a pin which engages two recesses within the valve well.
4. The valve cannot be removed without first opening the door making it safe for use in hospitals, institutions, etc. where the door must be kept locked at all times.

Procedure for Placing Full Cans in ″Manhattan″ Dispensers Wipe off bottom of cans before placing into dispenser.

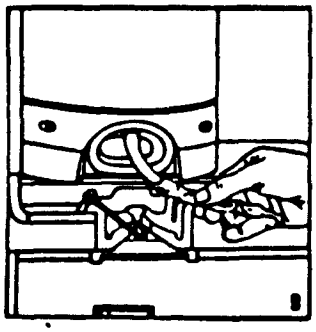
TO BE USED WITH CUP STYLE CANS AND PREDETERMINED TUBES:

Step A Press Aluminum Seal with thumb or pry off with spoon.



Step A

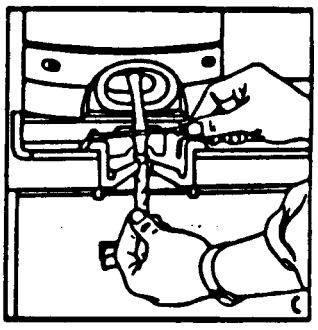
Step B Extract tube held within and remove outer pliofilm covering being careful not to pull rube from can



Step B

nipple. Care also should be taken not to pull plug from dispensing end of tube.

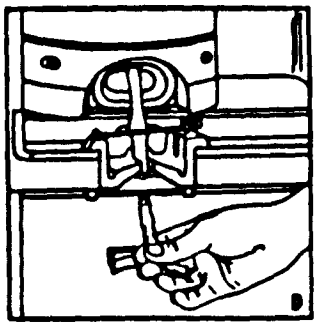
Step C Remove the lift valves for plastic wells. Lay (do not pull or stretch) tube down into white plastic well.



Step C

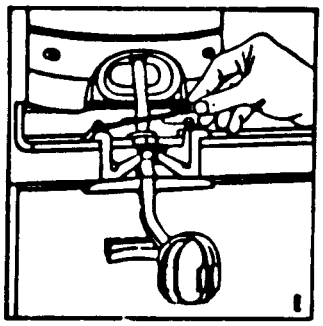
Using tube clamp, pinch off tube by swinging it against the tube and locking it over the pin provided.

Step D Plug can then be pulled from the tube with a downward motion.



Step D

Step E Replace lift valve and then release flow of milk by unlocking tube clamp from pin.



Step E

Your Norris Manhattan Dispenser is now ready for use and no further servicing is necessary until the milk supply needs replenishing.

When locking cabinet overnight, shut off flow of milk at tube locking clamp inside the cabinet.

SECTION 5

OPERATOR'S MAINTENANCE

Operator's maintenance duties will consist mainly of checking cabinet temperature, adjusting when necessary, occasional defrosting and cleaning dispenser.

All Norris Manhattan Dispensers are equipped with a temperature indicator located on the face of the door at approximately eye level. The dial plate has a three-color background. Blue indicates freeze zone; green, the safe zone; and red, the danger zone. All dispensers are factory adjusted for green zone operation (32 F to 44 F.), but if adjustments are necessary, they may be accomplished by use of the temperature control located on the left side of the dispenser as you face the door.

Occasional defrosting may be necessary, but because the door to the dispenser cabinet is seldom opened and the high density insulation used, defrosting is reduced to a minimum.

WHEN: Defrost when a coating of more than one-quarter of an inch of frost has built up on the cabinet interior.

HOW:

1. Disconnect power source cord.
2. Remove all milk containers from unit.
3. Leave cabinet door wide open.
4. When frost has melted, wash interior with warm soapy water, rinse, and wipe dry.
5. Close door and reconnect power source cord.

CAUTION

Cleaning the dispenser should be done with soap or detergent and water followed by a clear water rinse. If cleansers such as Bon Ami, Ajax, etc., are used, rubbing should be with and not against the grain of the stainless steel, as these cleansers contain abrasives and will scratch the stainless steel finish. For removal of heavy deposits, use STAINLESS STEEL WOOL . Never use ordinary steel wool as iron particle from the wool may cling to the surface and rust.

The Norriseal patented lift valve can be easily disengaged from valve well for cleaning by swinging it upward allowing the pins to slide free of the valve well recesses. The plastic valve well can be removed from the cabinet by pushing upward. These parts should be removed and cleaned at least after each can of milk dispensed or daily.

SECTION 6

TROUBLE SHOOTING

SERVICEMAN'S GUIDE

DO NOT REMOVE COMPRESSOR FROM DISPENSER UNTIL YOU HAVE CHECKED THE FOLLOWING POSSIBLE CAUSES FOR REFRIGERATION FAILURE

A. Compressor will not start-no hum.
   1. Power source cord disconnected.
   2. Blown fuse.
   3. Defective wiring.
   4. Overload protector tripped.
   5. Open control contacts (control may be defective, or dispenser location may be too cold).
   6. Defective overload protector.

B. Compressor will not start-hums but cycles on overload.
   1. Low voltage.
   2. Unit wired incorrectly.
   3. Relay contacts not closing.
   4. Compressor defective.
   5. High head pressure.

C. Compressor starts, but starting winding remains in circuit.

1. Low voltage.
2. Unit wired incorrectly.
3. Relay defective.
4. Compressor defective.
5. High Head pressure.

D. Compressor starts and runs but cycles on overload.
1. Low voltage.
2. Overload protector defective.
3. High head pressure.

E. Compressor tries to start when control closes but cuts out on overload; finally starts after several attempts.
1. Low voltage.
2. Control differential too close.
3. Control bulb not in tight contact with evaporator.
4. Relay contact points badly pitted.
5. Slight restriction in capillary tube, strainer or drier.
6. Air or noncondensable gases in system.

F. Compressor starts but immediately cuts out on overload.
1. Relay contact points welded together.
2. Low voltage.

G. Relays burn out.
1. Low voltage.
2. High Voltage.
3. Compressor short cycling.
4. Incorrect relay being used.

H. Head pressure too high.
1. System overcharged.
2. Air or noncondensables gases in system.
3. Clogged condenser.
4. Dispenser location too hot.
5. Air passage in chimney restricted.
6. Restriction in capillary tube, strainer or drier.
7. Restriction in discharge line.

I. Head pressure too low.
1. Insufficient refrigerant charge.
2. Leak in system.
3. Dispenser location too cold.

J. Compressor running cycle too long, or operating continuously.
1. Insufficient refrigerant charge, or leak in system.
2. Dirty or restricted condenser.

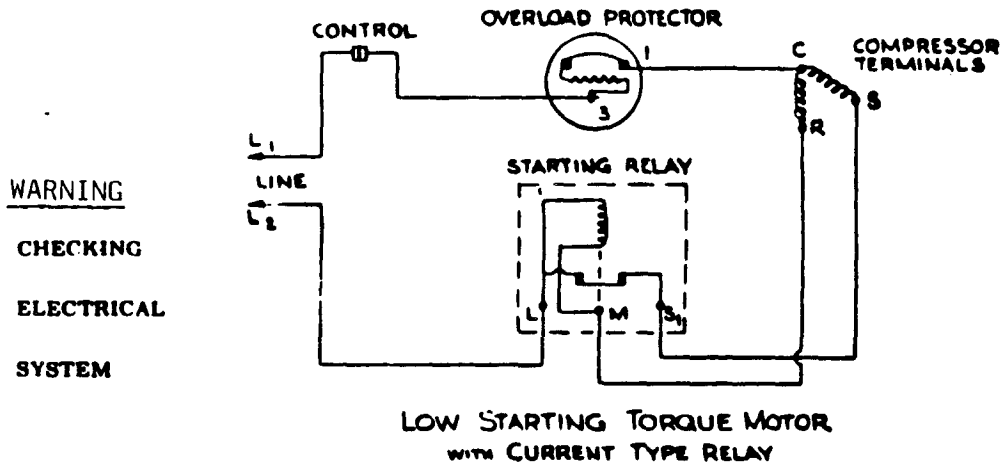
3. Dispenser location too warm.
4. Control contacts stuck.
5. Air or noncondensable gases in system.
6. Dispenser door left open too long.
7. Water-logged insulation.
8. Inefficient compressor.

K. Refrigerated cabinet temperature too high.
1. Shortage of refrigerant, or leak in system.
2. Restricted capillary tube, strainer or drier.
3. Control setting too high.
4. Capillary tube partially restricted.
5. Evaporator froze.
6. Inefficient compressor.

L. Noisy unit.
1. Tube rattle.
2. Loose mountings on compressor or condenser.

M. Evaporator freezes but defrosts while compressor is running.
1. Moisture in system. Clean system thoroughly by purging, evacuating and recharging as per charge indicated on Serial No. plate. Install new drier.

N. Suction line sweating or frosted.
1. Overcharge of refrigerant.



Low Starting Torque Motor

The electrical system on the Tecumseh hermetic compressor can be checked thoroughly with an ordinary test lamp as follows:

WITH COMPRESSOR PLUGGED IN test lamp across following must light:

L_1 and $L_{2.}$ If no light, check power source.

L and 3. If no light, make sure control contact are closed.

M and 3. If no light, relay circuit is open. Replace relay.

M and 1. If no light, overload may be tripped off. Wait 10 minutes. If no light, replace defective overload.

REMOVE WIRES FROM L and 3 and insert test lamp in series with L_1 and 3. Momentarily touch L_1 to following points in sequence.

S - If no light, start winding is open. Replace compressor.

R - If no light, run winding is open. Replace compressor.

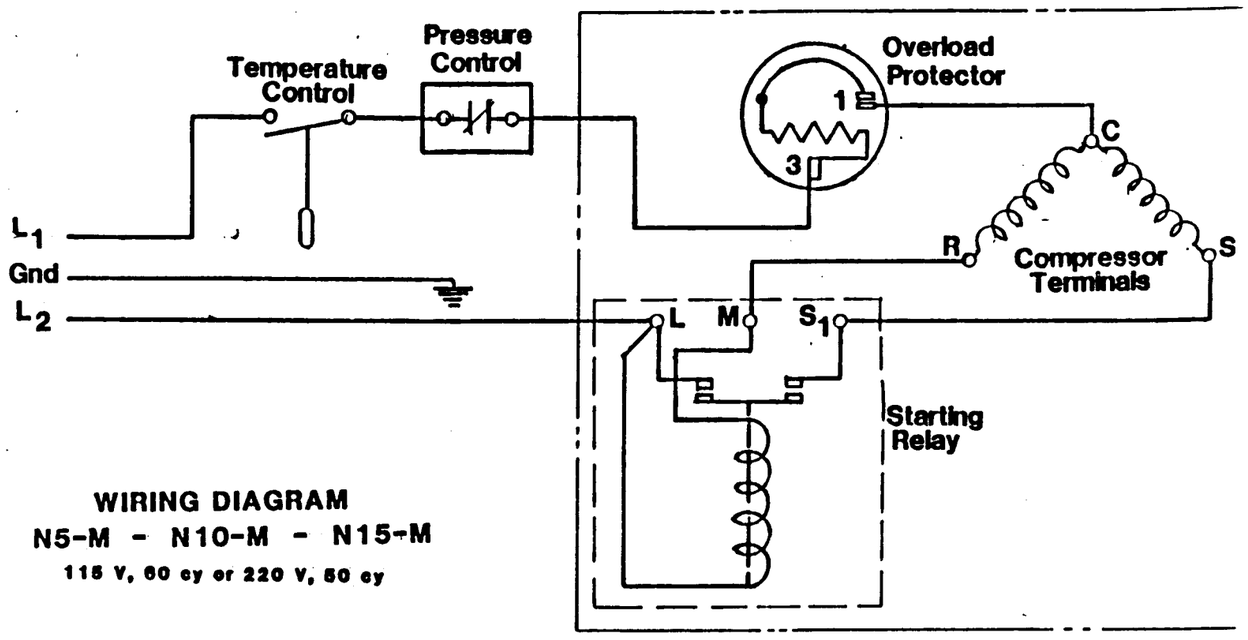
S_1 - If no light, Lead S_1 -S should be replaced.

M - If no light, lead M-R should be replaced.

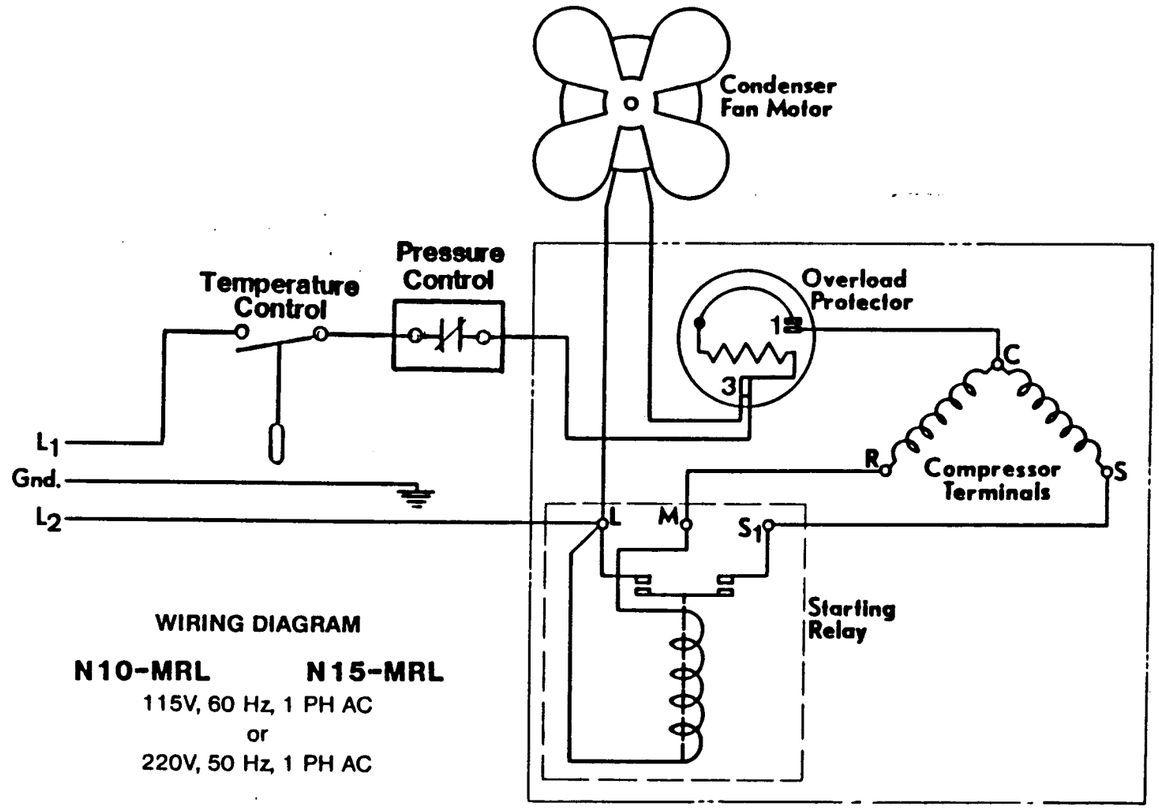
L - If no light, replace relay.

REMOVE LEAD M-R and insert test lamp in series with L_1 and 3. If light shows when L_2 is touched to L_1 , relay should be replaced. A new relay will eliminate any faulty electrical characteristics, such as improper pickup or drop out, which cannot be determined with a test lamp.

If all above tests prove satisfactory, and there is no capillary restriction, and unit still fails to operate properly with a good relay, compressor should be replaced.



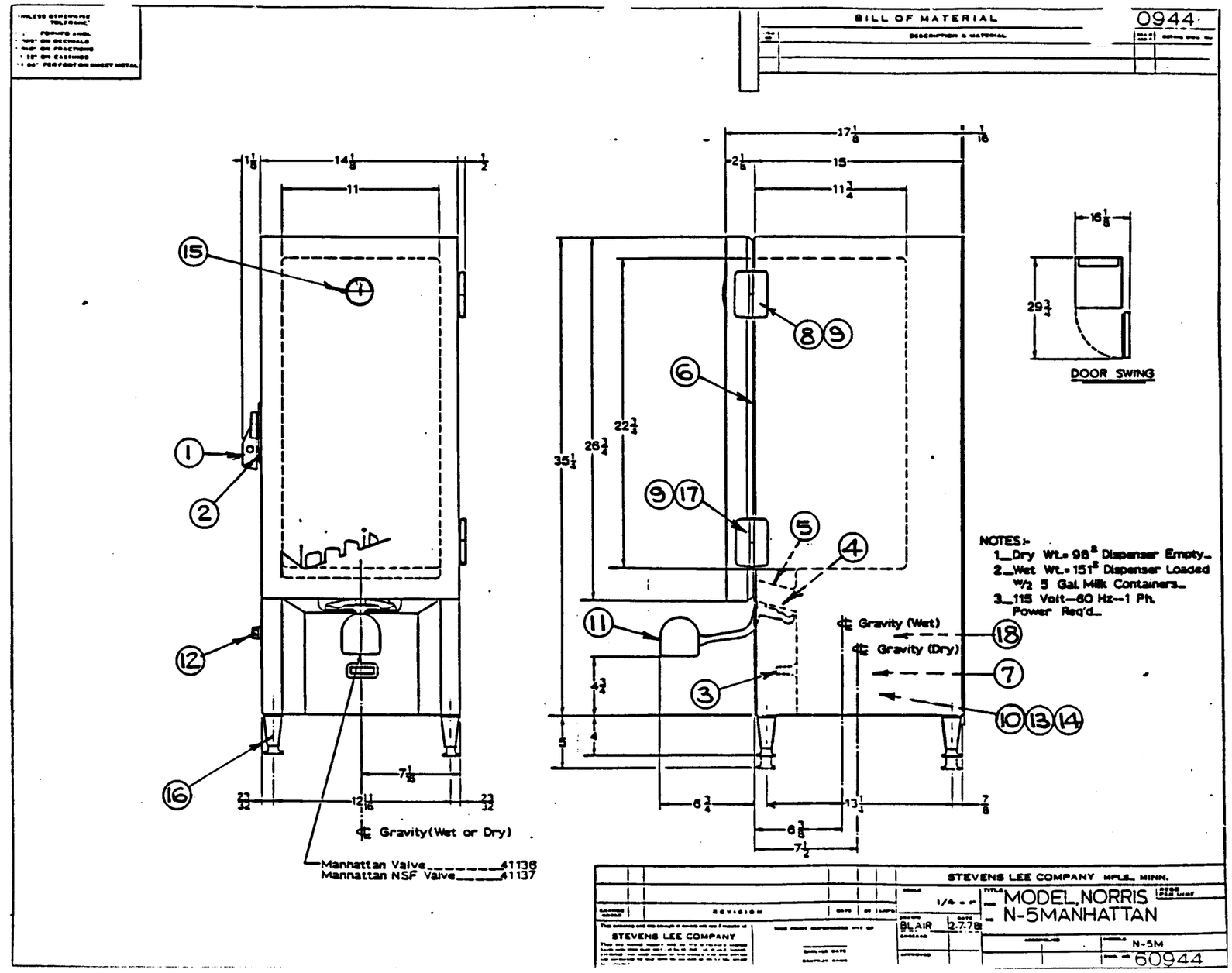
Wiring Diagram N5-M - N10-M - N15-M 115 V, 60 cy or 220 V, 50 cy



Wiring Diagram N10-MRL N15-MRL 115V, 60 Hz, 1 PH AC or 220V, 50 Hz, 1 PH AC

N-5 Manhattan Parts List

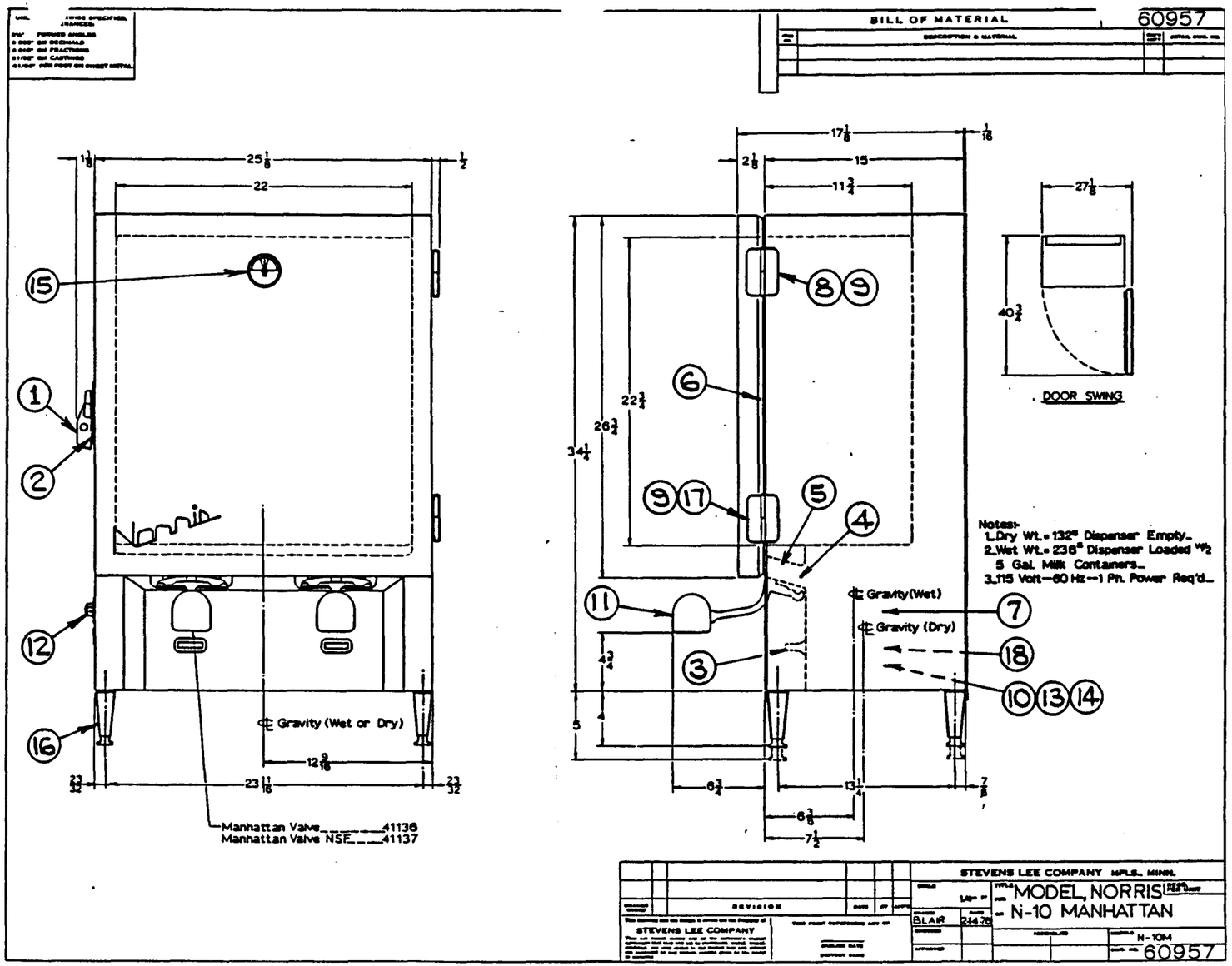
FIG & ITEM NO.	PART NO.	PART NAME	REPAIR AND INSTALLATION INSTRUCTIONS
1	21069	ASSEMBLY, LATCH	Attach to cabinet with 2 #8-32 x 1/2 O.H.S.S. screws.
2	21073	STRIKE	Attach to cabinet with 2 #8-32 x 1/2 O.H.S.S. screws.
3	21074	GLASS LOCATOR	Fasten to apron with 2 #8-32 x 3/8 screws.
4	21065	VALVE WELL	Slides into valve well cutout.
5	21066	TUBE CLAMP	Crimp eyelet around valve well pin.
6	20407	DOOR GASKET	Remove door pan screws and replace.
7	20013	HIGH SIDE DRIER	Silver solder to outlet end of condenser.
8	21756	ASSY, HINGE (CABINET)	Attach to cabinet with 2 #10-32 x 1/2 screws.
9	21758	HINGE COVER	Snap on fit. (1 req'd on cabinet, 1 req'd on door)
10	40302	COMPRESSOR	Mounted to base with 4 weld studs and spring clips.
11	41137	MANHATTAN VALVE ASSY	Drops into valve well slot.
12	40300	TEMP. CONTROL	Feed sensing tube into tube well, connect electrical terminals to spade terminals, attach control to cabinet with 2 mounting screws.
13	40304	STARTING RELAY	Plugs into connecting prongs within compressor terminal box, wire connections made with screws.
14	40303	OVERLOAD PROTECTOR	Snaps in place with tension bar within compressor terminal box, wire connections made with screws.
15	20361	TEMP. INDICATOR	Fits in place in door panel cutout.
16	20542-1	LEG	Attached by threading leg stud into nut retainer in base.
17	21755	ASSY, HINGE (DOOR)	Attach to door with 2 #10-32 x 1/2 screws.
18	99476	LOW PRES. CONTROL	Press in manual reset button - Check for leak.



N-5 Manhattan Diagram

N-10 Manhattan Parts List

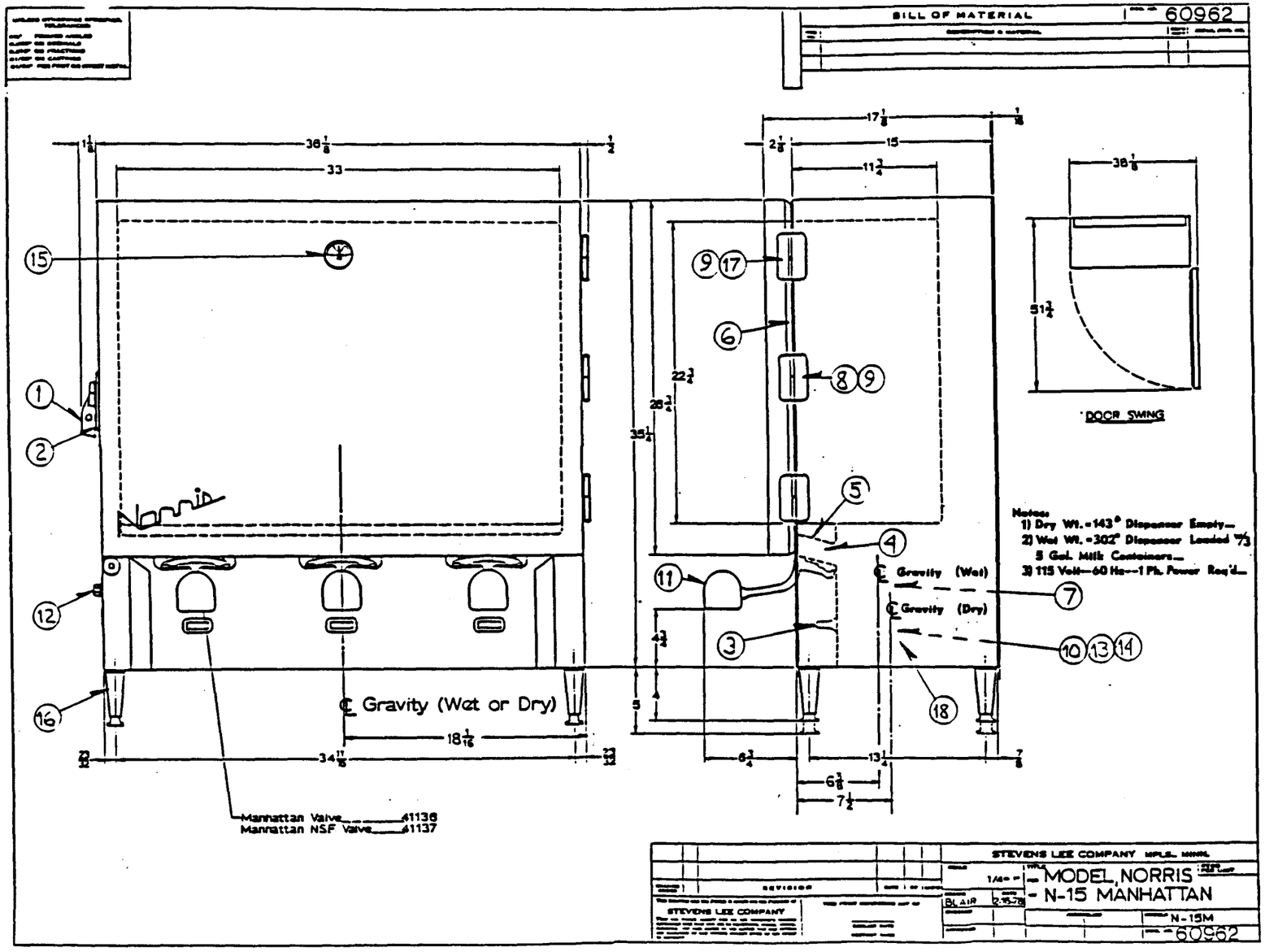
FIG & ITEM NO.	PART NO.	PART NAME	REPAIR AND INSTALLATION INSTRUCTIONS
1	21069	ASSEMBLY, LATCH	Attach to cabinet with 2 #8-32 x 1/2 O.H.S.S. screws.
2	21073	STRIKE	Attach to cabinet with 2 #8-32 x 1/2 O.H.S.S. screws.
3	21074	GLASS LOCATOR	Fasten to apron with 2 #8-32 x 3/8 screws.
4	21065	VALVE WELL	Slides into valve well cutout.
5	21066	TUBE CLAMP	Crimp eyelet around valve well pin.
6	20410	DOOR GASKET	Remove door pan screws and replace.
7	20013	HIGH SIDE DRIER	Sliver solder to outlet end of condenser.
8	21756	ASSY, HINGE (CABINET)	Attach to cabinet with 2 #10-32 x 1/2 screws.
9	21758	HINGE COVER	Snap on fit. (1 req'd on cabinet, 1 req'd on door)
10	40302	COMPRESSOR	Mounted to base with 4 weld studs and spring clips.
11	41137	MANHATTAN VALVE ASSY	Drops into valve well slot.
12	40300	TEMP. CONTROL	Feed sensing tube into tube well, connect electrical terminals to spade terminals, attach control to cabinet with 2 mounting screws.
13	40304	STARTING RELAY	Plugs into connecting prongs within compressor terminal box, wire connections made with screws.
14	40303	OVERLOAD PROTECTOR	Snaps in place with tension bar within compressor terminal box, wire connections made with screws.
15	20361	TEMP. INDICATOR	Fits in place in door panel cutout.
16	20542-1	LEG	Attached by threading leg stud into nut retainer in base.
17	21755	ASSY, HINGE (DOOR)	Attach to door with 2 #10-32 x 1/2 screws.
18	99476	LOW PRES. CONTROL	Press in manual reset button - Check for leak.



N-10 Manhattan Diagram

N-15 Manhattan Parts List

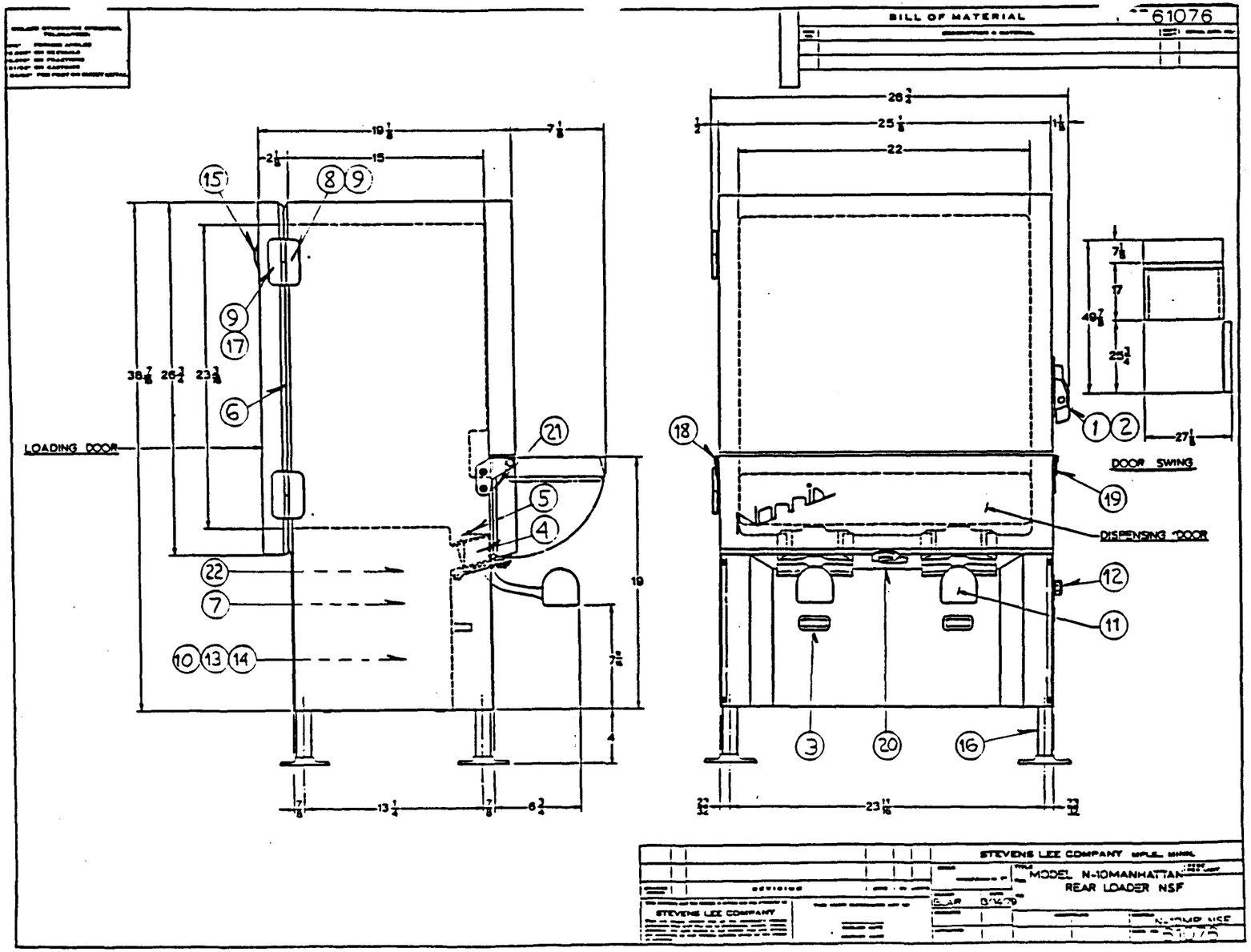
FIG & ITEM NO.	PART NO.	PART NAME	REPAIR AND INSTALLATION INSTRUCTIONS
1	21069	ASSEMBLY, LATCH	Attach to cabinet with 2 #8-32 x 1/2 O.H.S.S. screws.
2	21073	STRIKE	Attach to cabinet with 2 #8-32 x 1/2 O.H.S.S. screws.
3	21074	GLASS LOCATOR	Fasten to apron with 2 #8-32 x 3/8 screws.
4	21065	VALVE WELL	Slides into valve well cutout.
5	21066	TUBE CLAMP	Crimp eyelet around valve well pin.
6	20427	DOOR GASKET	Remove door pan screws and replace.
7	20013	HIGH SIDE DRIER	Sliver solder to outlet end of condenser.
8	21756	ASSY, HINGE (CABINET)	Attach to cabinet with 2 #10-32 x 1/2 screws.
9	21758	HINGE COVER	Snap on fit. (1 req'd on cabinet, 1 req'd on door)
10	40306	COMPRESSOR	Mounted to base with 4 weld studs and spring clips.
11	41137	MANHATTAN VALVE ASSY	Drops into valve well slot.
12	40300	TEMP. CONTROL	Feed sensing tube into tube well, connect electrical terminals to spade terminals, attach control to cabinet with 2 mounting screws.
13	40308	STARTING RELAY	Plugs into connecting prongs within compressor terminal box, wire connections made with screws.
14	40307	OVERLOAD PROTECTOR	Snaps in place with tension bar within compressor terminal box, wire connections made with screws.
15	20361	TEMP. INDICATOR	Fits in place in door panel cutout.
16	20542-1	LEG	Attached by threading leg stud into nut retainer in base.
17	21755	ASSY, HINGE (DOOR)	Attach to door with 2 #10-32 x 1/2 screws.
18	99476	LOW PRES. CONTROL	Press in manual reset button - Check for leak.



N-15 Manhattan Diagram

N-10 Manhattan R.L. (Rear Loader) Parts List

FIG & ITEM NO.	PART NO.	PART NAME	REPAIR AND INSTALLATION INSTRUCTIONS
1	21069	ASSEMBLY, LATCH	Attach to cabinet with 2 #8-32 x 1/2 O.H.S.S. screws.
2	21073	STRIKE	Attach to cabinet with 2 #8-32 x 1/2 O.H.S.S. screws.
3	21074	GLASS LOCATOR	Fasten to apron with 2 #8-32 x 3/8 screws.
4	21065	VALVE WELL	Slides into valve well cutout.
5	21066	TUBE CLAMP	Crimp eyelet around valve well pin.
6	20410	DOOR GASKET	Remove door pan screws and replace.
7	20013	HIGH SIDE DRIER	Sliver solder to outlet end of condenser.
8	21756	ASSY, HINGE (CABINET)	Attach to cabinet with 2 #10-32 x 1/2 screws.
9	21758	HINGE COVER	Snap on fit. (1 req'd on cabinet, 1 req'd on door)
10	40302	COMPRESSOR	Mounted to base with 4 weld studs and spring clips.
11	41137	MANHATTAN VALVE ASSY	Drops into valve well slot.
12	40300	TEMP. CONTROL	Feed sensing tube into tube well, connect electrical terminals to spade terminals, attach control to cabinet with 2 mounting screws.
13	40304	STARTING RELAY	Plugs into connecting prongs within compressor terminal box, wire connections made with screws.
14	40303	OVERLOAD PROTECTOR	Snaps in place with tension bar within compressor terminal box, wire connections made with screws.
15	20361	TEMP. INDICATOR	Fits in place in door panel cutout.
16	21661	LEG	Attached by threading leg stud into nut retainer in base.
17	21755	ASSY, HINGE (DOOR)	Attach to door with 2 #10-32 x 1/2 screws.
18	21095L	ASSY, HINGE KNIFE LT	Attach to cabinet with 2 #10-32 x 1/2 screws.
19	21095R	ASSY, HINGE KNIFE RT	Attach to cabinet with 2 #10-32 x 1/2 screws.
20	20660	LATCH & STRIKE	Attach to door and cabinet with 4 #8-32 x 1/2 screws.
21	40475	DOOR GASKET	Remove door pan screws and replace.
22	99476	LOW PRES. CONTROL	Press in manual reset button - Check for leak.



N-10 Manhattan Rear Loader Diagram

N-15 Manhattan R.L. (Rear Loader)

FIG & ITEM NO.	PART NO.	PART NAME	REPAIR AND INSTALLATION INSTRUCTIONS
1	21069	ASSEMBLY, LATCH	Attach to cabinet with 2 #8-32 x 1/2 O.H.S.S. screws.
2	21073	STRIKE	Attach to cabinet with 2 #8-32 x 1/2 O.H.S.S. screws.
3	21074	GLASS LOCATOR	Fasten to apron with 2 #8-32 x 3/8 screws.
4	21065	VALVE WELL	Slides into valve well cutout.
5	21066	TUBE CLAMP	Crimp eyelet around valve well pin.
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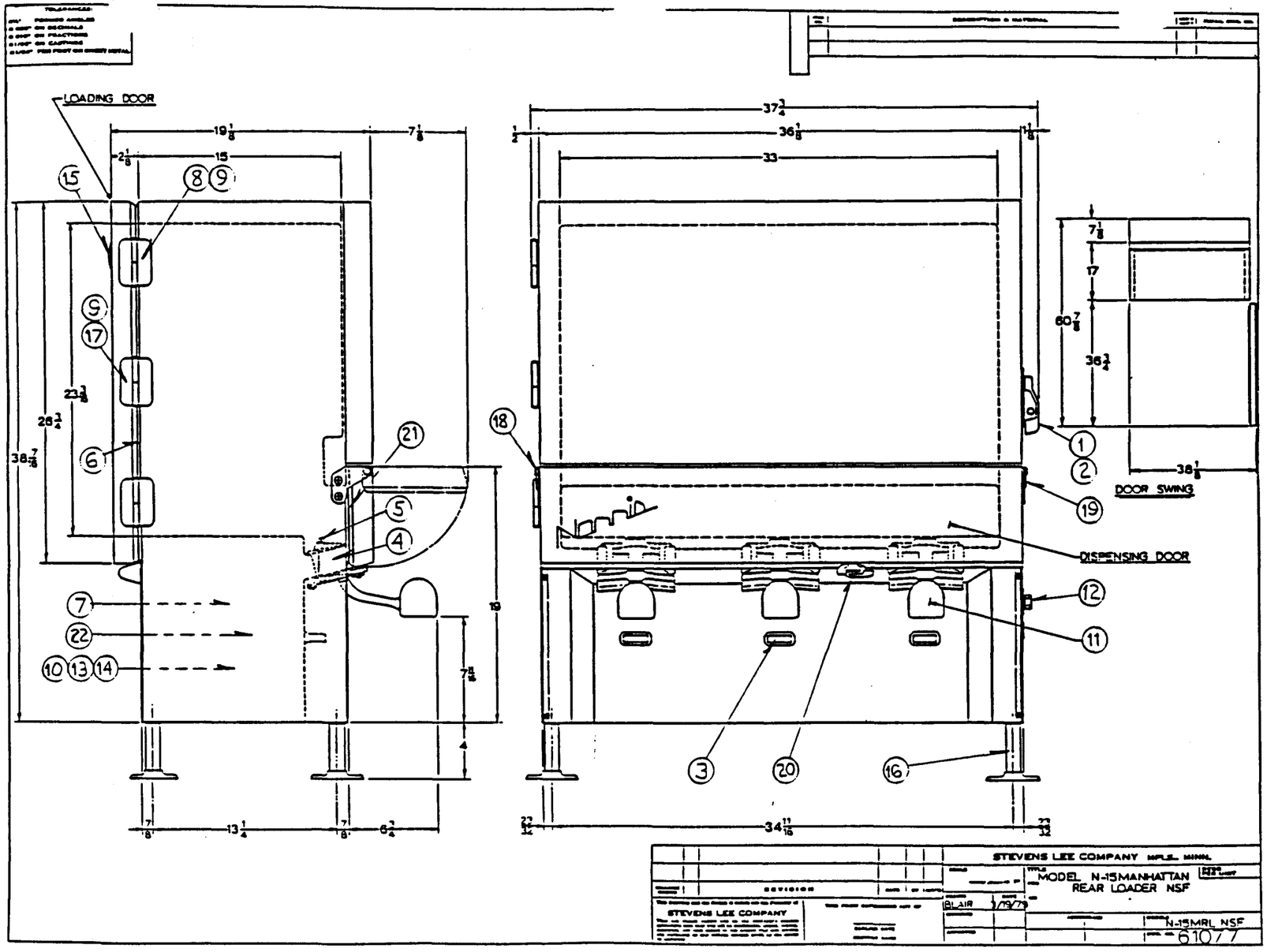
7	20013	HIGH SIDE DRIER	Sliver solder to outlet end of condenser.
8	21756	ASSY, HINGE (CABINET)	Attach to cabinet with 2 #10-32 x 1/2 screws.
9	21758	HINGE COVER	Snap on fit. (1 req'd on cabinet, 1 req'd on door)
10	40306	COMPRESSOR	Mounted to base with 4 weld studs and spring clips.
11	41137	MANHATTAN VALVE ASSY	Drops into valve well slot.
12	40300	TEMP. CONTROL	Feed sensing tube into tube well, connect electrical terminals to spade terminals, attach control to cabinet with 2 mounting screws.
13	40308	STARTING RELAY	Plugs into connecting prongs within compressor terminal box, wire connections made with screws.
14	40307	OVERLOAD PROTECTOR	Snaps in place with tension bar within compressor terminal box, wire connections made with screws.
15	20361	TEMP. INDICATOR	Fits in place in door panel cutout.
16	21661	LEG	Attached by threading leg stud into nut retainer in base.
17	21755	ASSY, HINGE (DOOR)	Attach to door with 2 #10-32 x 1/2 screws.
18	21095L	ASSY, HINGE KNIFE LT	Attach to cabinet with 2 #10-32 x 1/2 screws.
19	2109SR	ASSY, HINGE KNIFE RT	Attach to cabinet with 2 #10-32 x 1/2 screws.
20	20660	LATCH & STRIKE	Attach to door and cabinet with 4 #8-32 x 1/2 screws.
21	40475	DOOR GASKET	Remove door pan screws and replace.
22	99476	LOW PRES. CONTROL	Press in manual reset button-Check for leak.



N-15 Manhattan Diagram

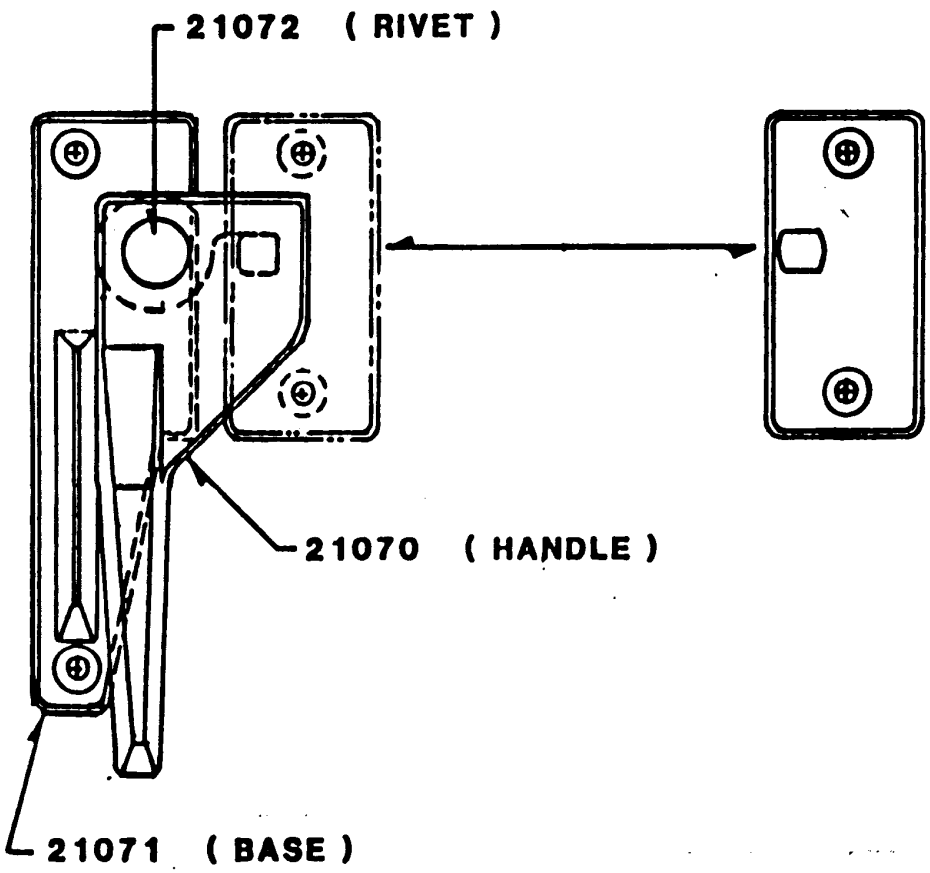
Norris Manhattan Dispensers have been designed and constructed so that maintenance parts could be held to a minimum. The following table lists these parts excluding standard hardware, structural parts or any others which have no maintenance significance:

Norris Suggested Allowance Parts List

PART NUMBER	DESCRIPTION	ILLUS.	EQUIPMENT & QTY./EQUIPMENT					MANUFACTURER OR SUPPLIER	MANUFACTURER OR SUPPLIER NO.
			N-5	N-10	N-15	N-10RL	N-15RL		
21069	Assembly, Latch	FIG. 1	1	1	1	1	1	Norris Dispenser Co., Plymouth, MN	21069
21073	Strike	FIG. 1	1	1	1	1	1	Norris Dispenser Co., Plymouth, MN	21073
21074	Glass Locator	FIG. 2	1	2	3	2	3	Norris Dispenser Co., Plymouth, MN	21074
21065	Valve Well	FIG. 3	1	2	3	2	3	Norris Dispenser Co., Plymouth, MN	60911
21066	Tube Clamp	FIG. 4	1	2	3	2	3	Norris Dispenser Co., Plymouth, MN	21066
20407	Door Gasket	FIG. 5	1	-	-	-	-	Norris Dispenser Co., Plymouth, MN	20407
20410	Door Gasket	FIG. 6	-	1		1		Norris Dispenser Co., Plymouth, MN	20410
20427	Door Gasket	FIG. 7	-	-	1	-	1	Norris Dispenser Co., Plymouth, MN	20427
20013	High Side Drier	FIG. 8	1	1	1	1	1	Parker Refrig. & Air Cond., Lyons, NY	37-052428-00
21756	Assembly, Hinge Cabinet	FIG. 9	2	2	3	2	3	Norris Dispenser Co., Plymouth, MN	21756
21755	Assembly, Hinge Door	FIG. 9	2	2	3	2	3	Norris Dispenser Co., Plymouth, MN	21755
21758	Hinge Cover	FIG. 10	4	4	6	4	6	Norris Dispenser Co., Plymouth, MN	21758
40302	Compressor	FIG. 11	1	1	-	1	-	Tecumseh Prod. Co., Tecumseh, MI	AE1336A
40306	Compressor	FIG. 11	-	-	1	-	1	Tecumseh Prod. Co., Tecumseh, MI	AE1360A
41137	Manhattan Valve Assy.	FIG. 12	1	2	3	2	3	Norris Dispenser Co., Plymouth, MN	41137
40300	Temperature Control	FIG. 13	1	1	1	1	1	Cutler-Hammer Inc., Athens, AL	9530N144
40304	Starting Relay	FIG. 14	1	1	-	1	-	Tecumseh Prod. Co., Tecumseh, MI	82611
40308	Starting Relay	FIG. 14	-	-	1	-	1	Tecumseh Prod. Co., Tecumseh, MI	8209660A32

Norris Suggested Allowance Parts List - Continued

PART NUMBER	DESCRIPTION	ILLUS.	EQUIPMENT & QTY./EQUIPMENT					MANUFACTURER OR SUPPLIER	MANUFACTURER OR SUPPLIER NO.
			N-5	N-10	N-15	N-10RL	N-15RL		
40303	Overload Protector	FIG. 15	1	1	-	1		Tecumseh Prod. Co., Tecumseh, MI	83613
40307	Overload Protector	FIG. 15	-	-	1	-	1	Tecumseh Prod. Co., Tecumseh, MI	83618
20361	Temperature Indicator	FIG. 16	1	1	1	1	1	Ametex Inc., New York, NY	124793
20542-1	Leg	FIG. 17	4	4	4	-	-	Klein Hardware Mfg. Co., Allenwood, NJ	222-16-SF
40278	Leg Ass'y. (Marine)	FIG. 18	1	-	-	-	-	Norris Dispenser Co., Plymouth, MN	40278
40276	Leg Ass'y. (Marine)	FIG. 19	-	1		-	-	Norris Dispenser Co., Plymouth, MN	40276
40279	Leg Ass'y. (Marine)	FIG. 20	-	-	1	-	-	Norris Dispenser Co., Plymouth, MN	40279
21661	Leg, Solid S. Steel	FIG. 21	4	4	4	4	4	Norris Dispenser Co., Plymouth, MN	21661
21095L	Hinge Ass'y., Knife Lt.	FIG. 22	-	-	-	1	1	Norris Dispenser Co., Plymouth, MN	21095L
21095R	Hinge Ass'y., Knife Rt.	FIG. 22	-	-	-	1	1	Norris Dispenser Co., Plymouth, MN	21095R
20660	Latch & Strike	FIG. 23	-	-	-	1	1	Amerock Corp., Rockford, IL	CM-7045-26
21097	Door Gasket	FIG. 24	-	-	-	1	-	Norris Dispenser Co., Plymouth, MN	21097
40475	Door Gasket	FIG. 25	-	-	-	-	1	Norris Dispenser Co., Plymouth, MN	40475
99476	Low Pressure Control	FIG. 26	1	1	1	1	1	Ranco Control, Plain City, OH	G20-4410-37



NORRIS DISPENSERS

PART NAME: ASSEMBLY, LATCH
MODEL: N-5, N-10, N-15,
N-10 R.L., N-15 R.L.
PART NUMBER: 21069

PART NAME: STRIKE
MODEL: N-5, N-10, N-15,
N-10 R.L., N-15 R.L.
PART NUMBER: 21073

Figure 1 Assembly Latch

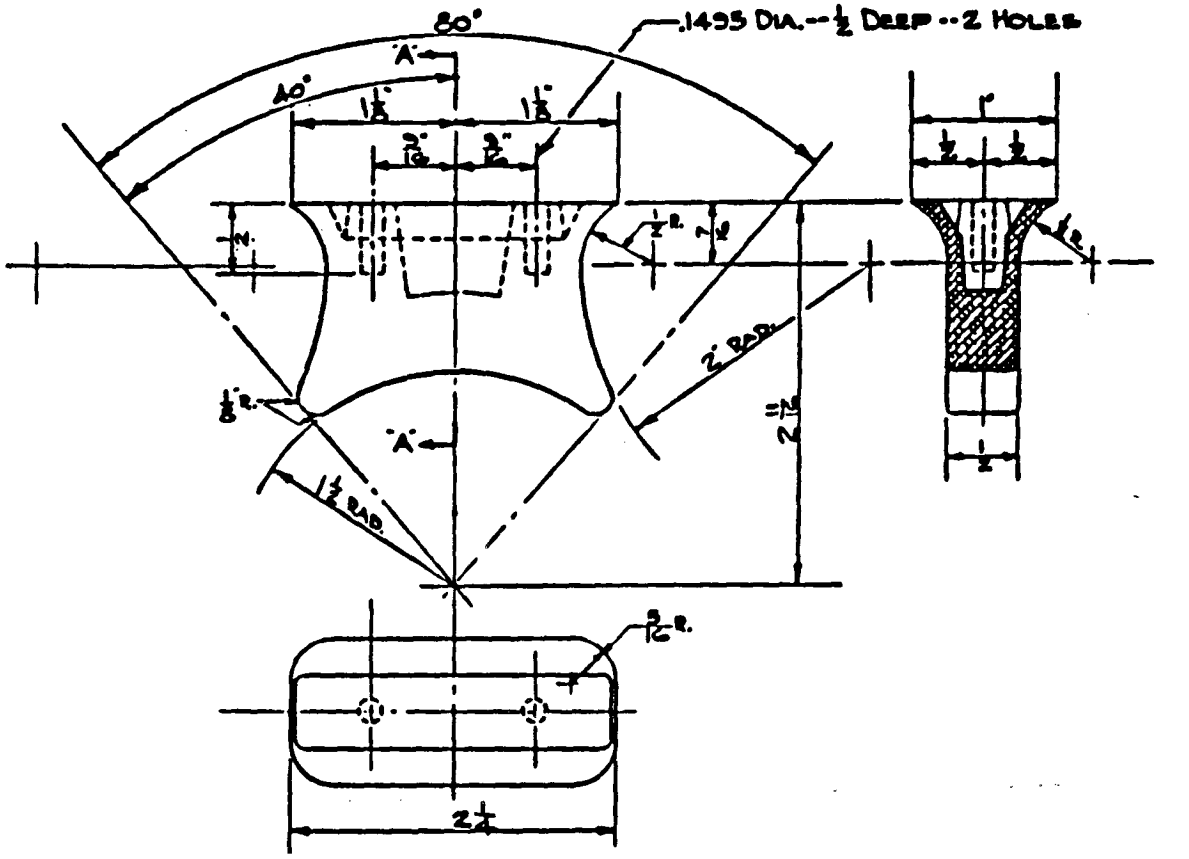


Figure 2 Glass Locator

SECTION 7

NORRIS MILK DISPENSER

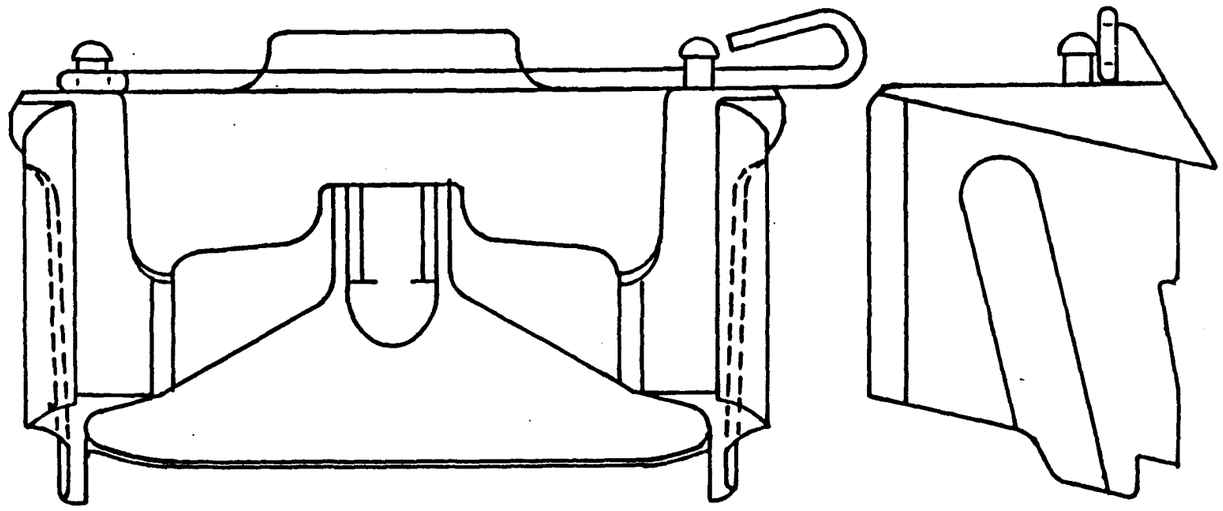
Removal and Replacement Procedure for Dryer, High Side (Condenser), Compressor, Temperature Control, Starting Relay, Overload Protector and Temperature Indicator.

DRYER

1.

WARNING

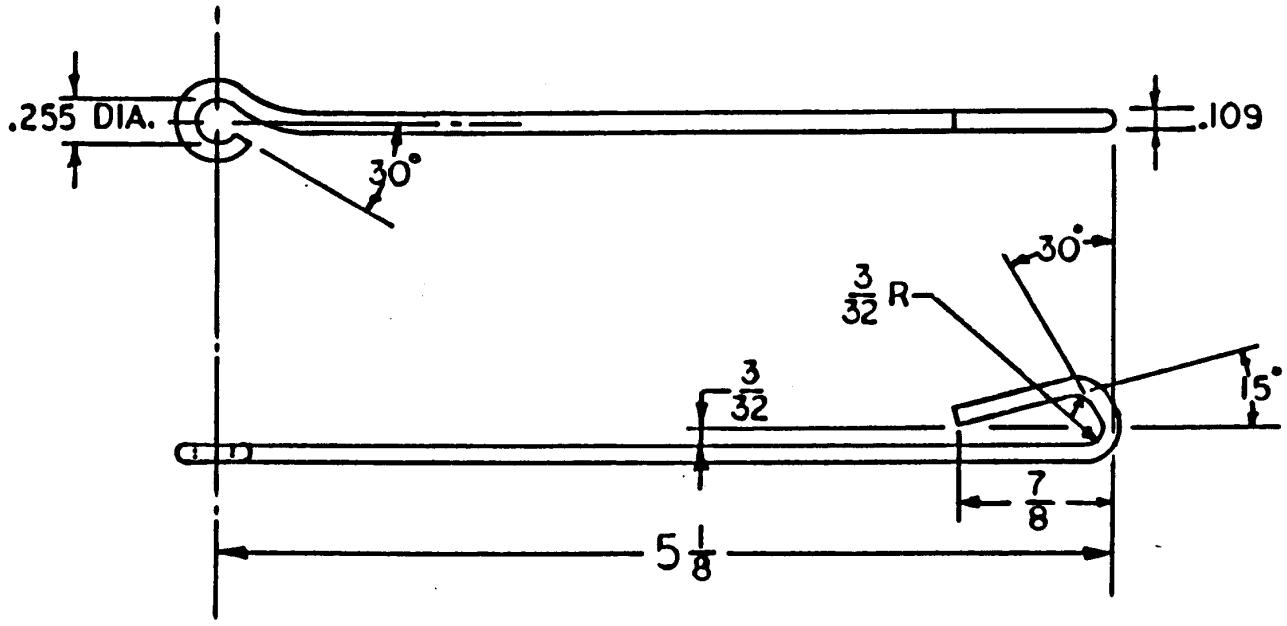
Disconnect power source cord.



NORRIS DISPENSERS

PART NAME: VALVE WELL
MODEL: N-5, N-10, N-15, N-10 R.L., N-15 R.L.
PART NUMBER: 21065

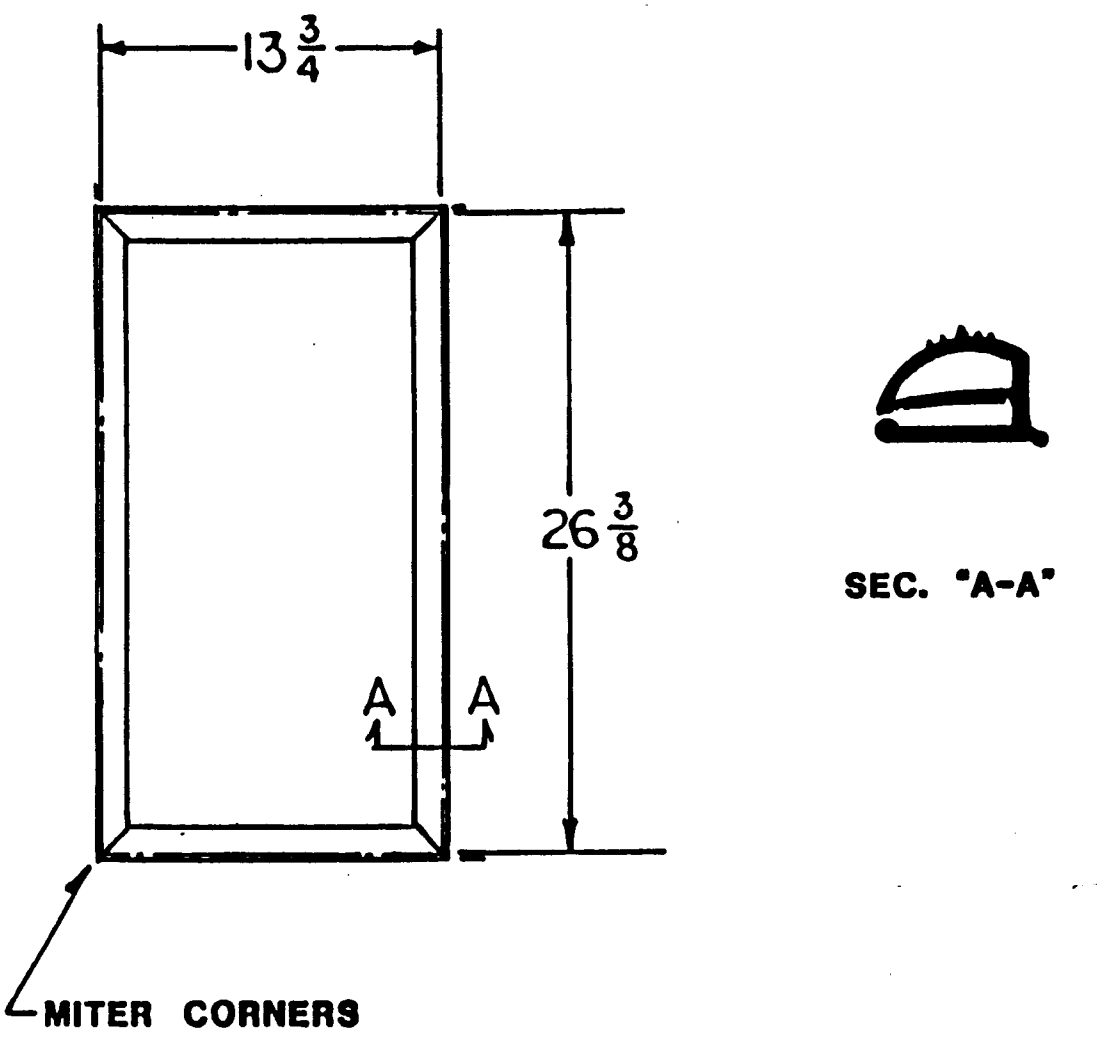
Figure 3 Valve Well



NORRIS DISPENSERS

PART NAME: TUBE CLAMP
MODEL: N-5, N-10, N-15, N-10 R.L., N-15 R.L.
PART NUMBER: 21066

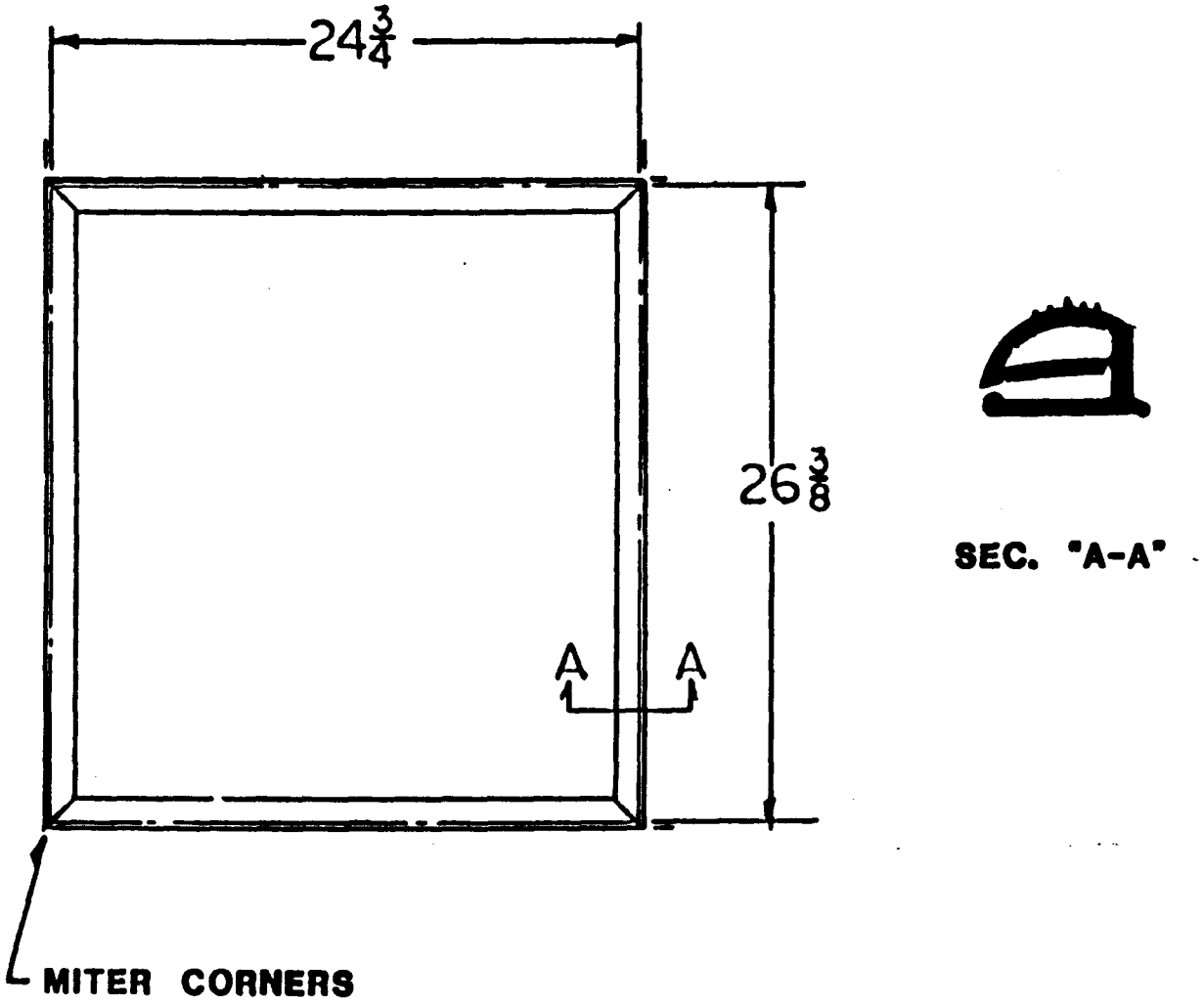
Figure 4 Tube Clamp



NORRIS DISPENSERS

PART NAME: DOOR GASKET
MODEL: N-5
PART NUMBER: 20407

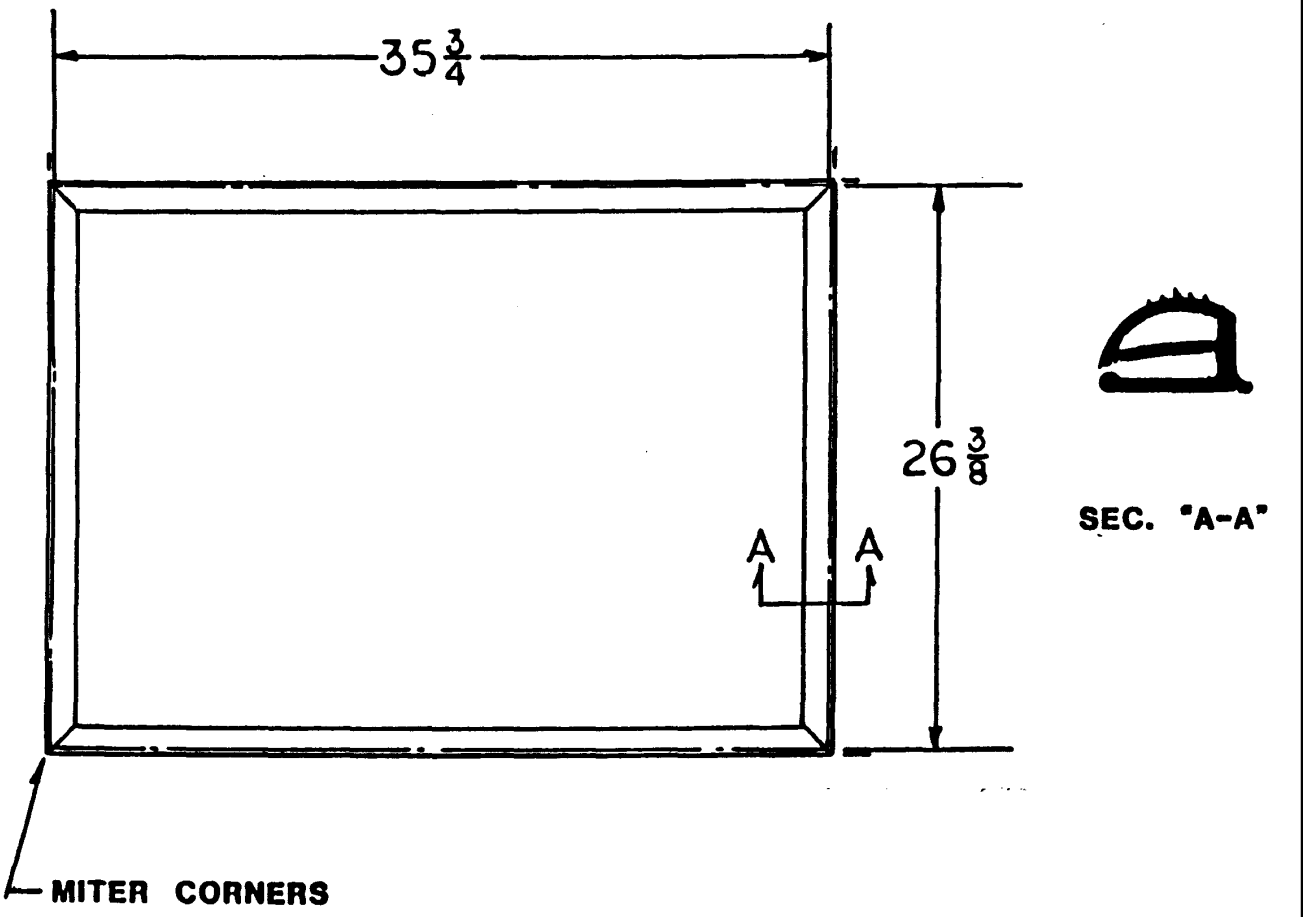
Figure 5 Door Gasket



NORRIS DISPENSERS

PART NAME: DOOR GASKET
MODEL: N-10, N-10 R.L.
PART NUMBER: 20410

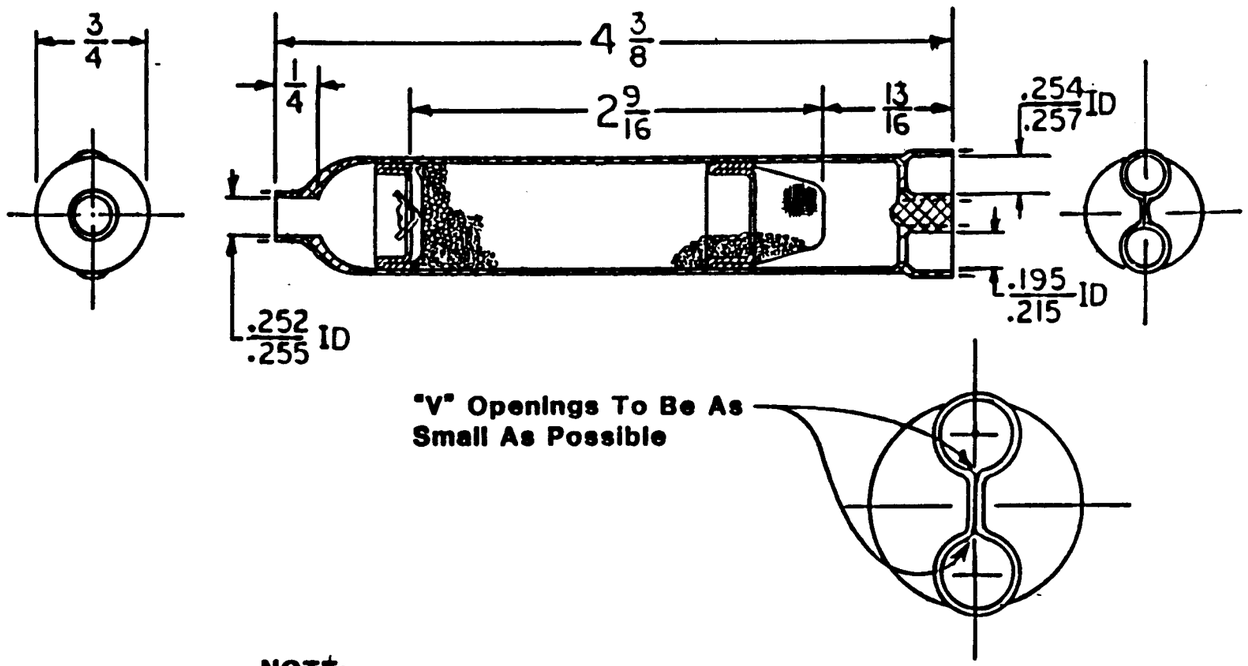
Figure 6 Door Gasket



NORRIS DISPENSERS

PART NAME: DOOR GASKET
MODEL: N-15, N-15 R.L.
PART NUMBER: 20427

Figure 7 Door Gasket



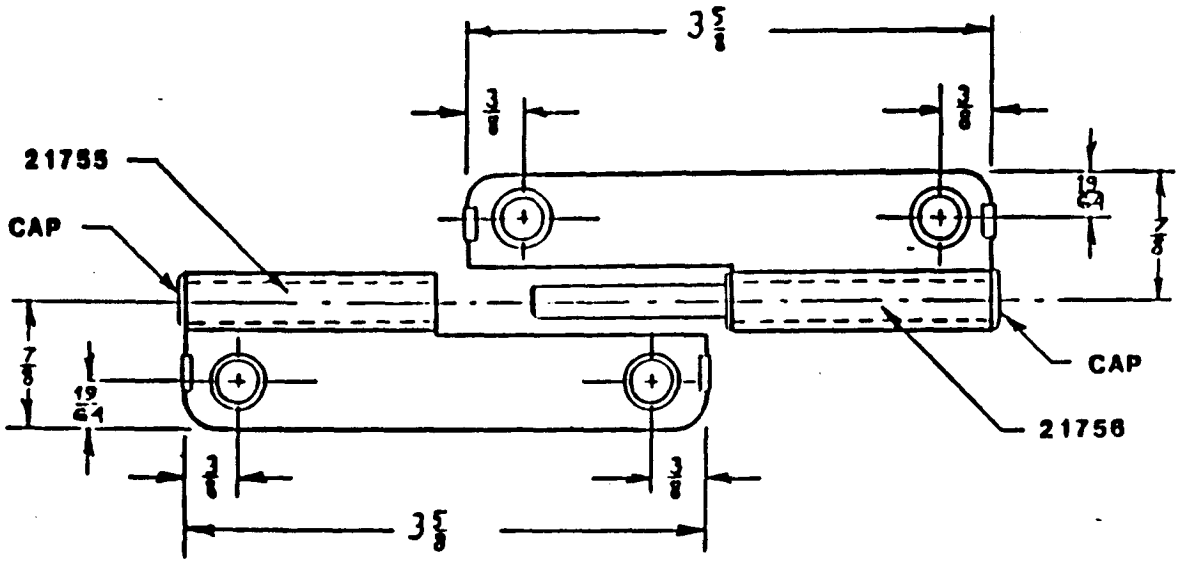
NOTE:

1. **All Parts Not To Exceed 2% Residual Moisture As Shipped.**
2. **Seal Parts In 1 Gal. Metal Containers.**

NORRIS DISPENSERS

PART NAME: HIGH SIDE DRYER
MODEL: N-5, N-10, N-15, N-10 R.L., N-15 R.L.
PART NUMBER: 20013

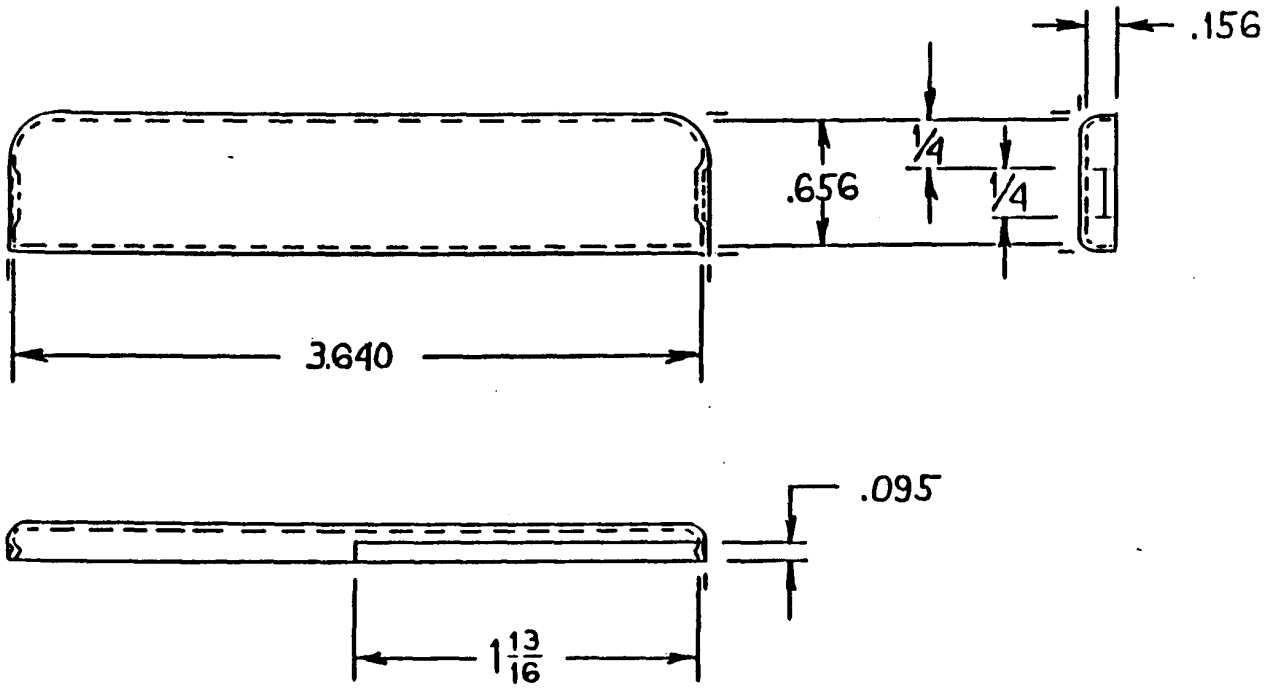
Figure 8 High Side Dryer



NORRIS DISPENSERS

PART NAME: ASSEMBLY, HINGE
MODEL: N-5, N-10, N-15, N-10 R.L., N-15 R.L.
PART NUMBER: 21755 & 21756

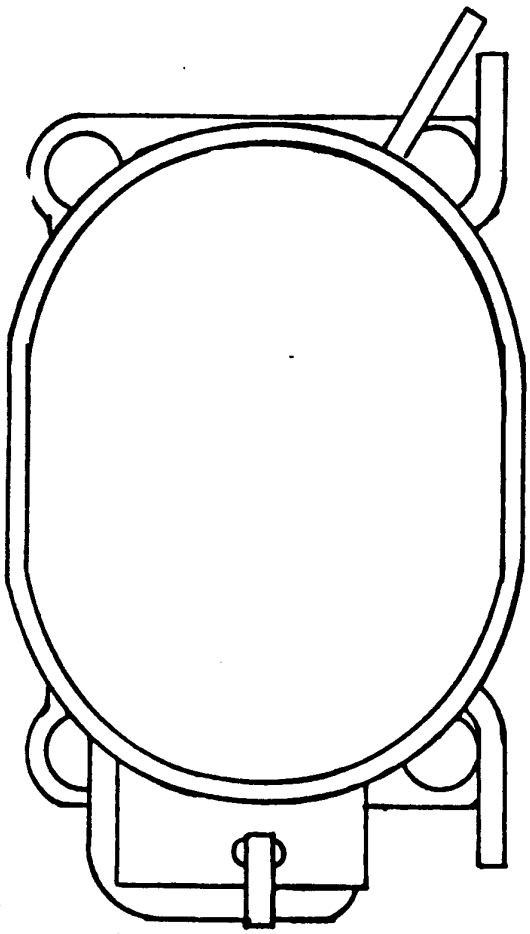
Figure 9 Assembly Hinge



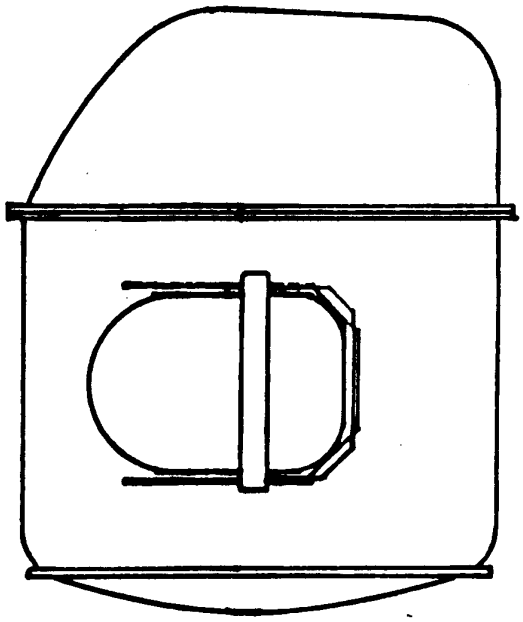
NORRIS DISPENSERS

PART NAME: COVER, HINGE
MODEL: N-5, N-10, N-15, N-10 R.L., N-15 R.L.
PART NUMBER: 21758

Figure 10 Cover, Hinge



TOP VIEW



END VIEW

NORRIS DISPENSERS

PART NAME: COMPRESSOR

MODEL: N-5, N-10, N-15, N-10 R.L., N-15 R.L.

PART NUMBER FOR N-5, N-10, N-10 R.L.: 40302

PART NUMBER FOR N-15, N-15 R.L.: 40306

Figure 11 Compressor

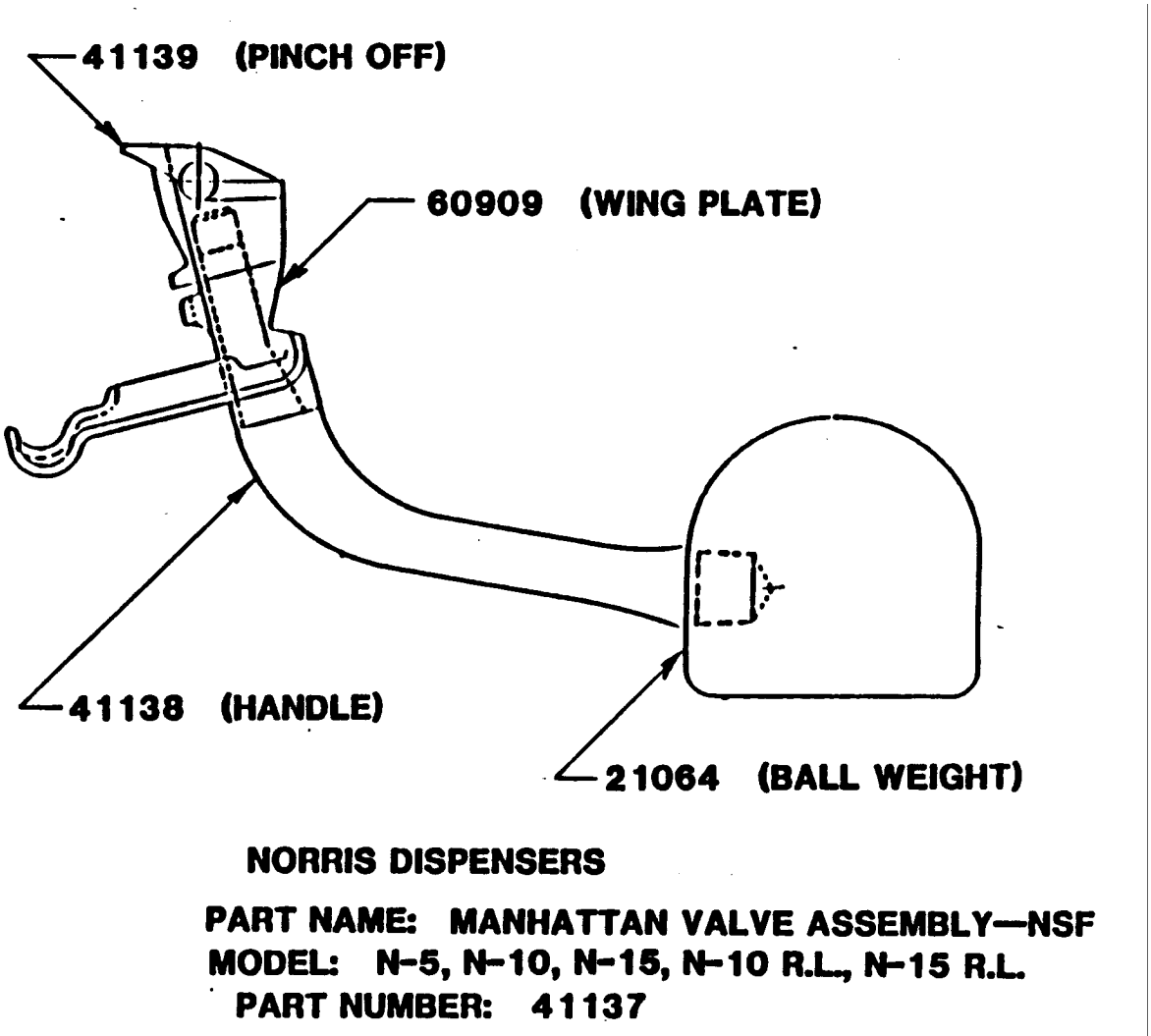
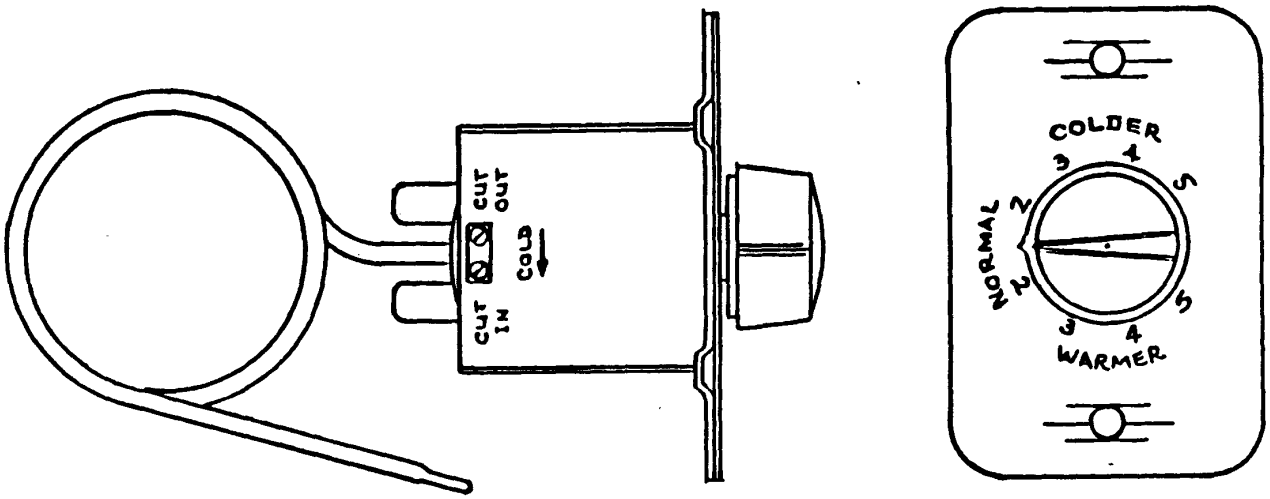


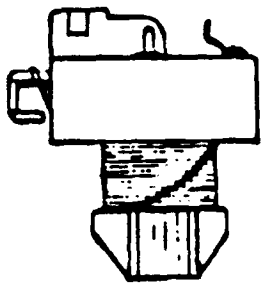
Figure 12 Manhattan Valve Assembly-NSF



NORRIS DISPENSERS

PART NAME: TEMPERATURE CONTROL
MODEL: N-5, N-10, N-15, N-10 R.L., N-15 R.L.
PART NUMBER: 40300

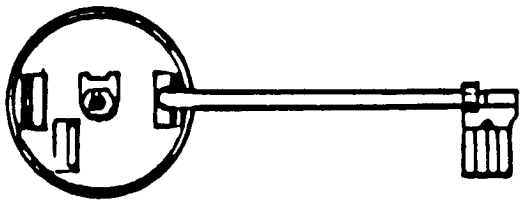
Figure 13 Temperature Control



NORRIS DISPENSERS

PART NAME: STARTING RELAY
MODEL: N-5, N-10, N-15, N-10 R.L., N-15 R.L.
PART NUMBER FOR N-5, N-10, & N-10 R.L.: 40304
PART NUMBER FOR N-15 & N-15 R.L.: 40308

Figure 14 Starting Relay



NORRIS DISPENSERS

PART NAME: OVERLOAD PROTECTOR
MODEL: N-5, N-10, N-15, N-10 R.L., N-15 R.L.
PART NUMBER FOR N-5, N-10 & N-10 R.L.: 40303
PART NUMBER FOR N-15 & N-15 R.L.: 40307

Figure 15 Overload Protector

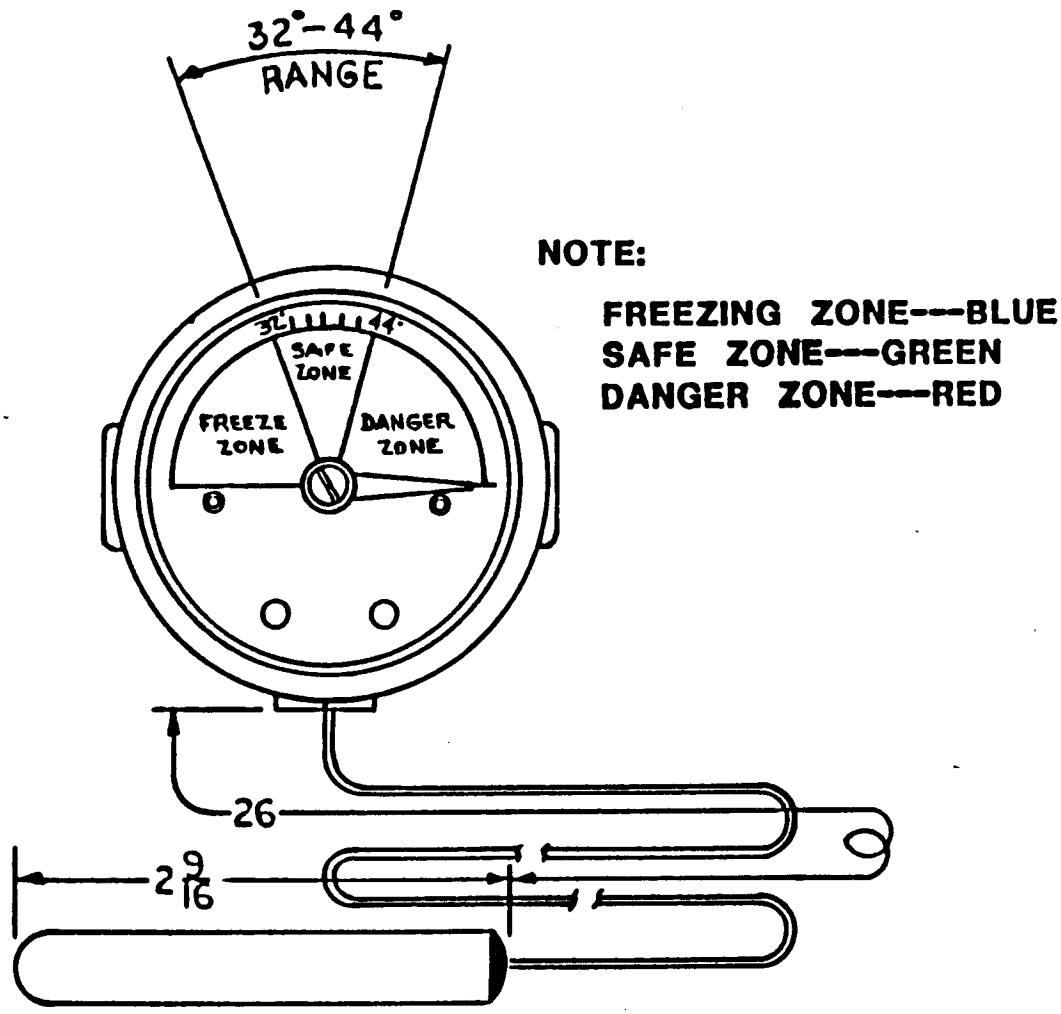


Figure 16 Temperature Indicator

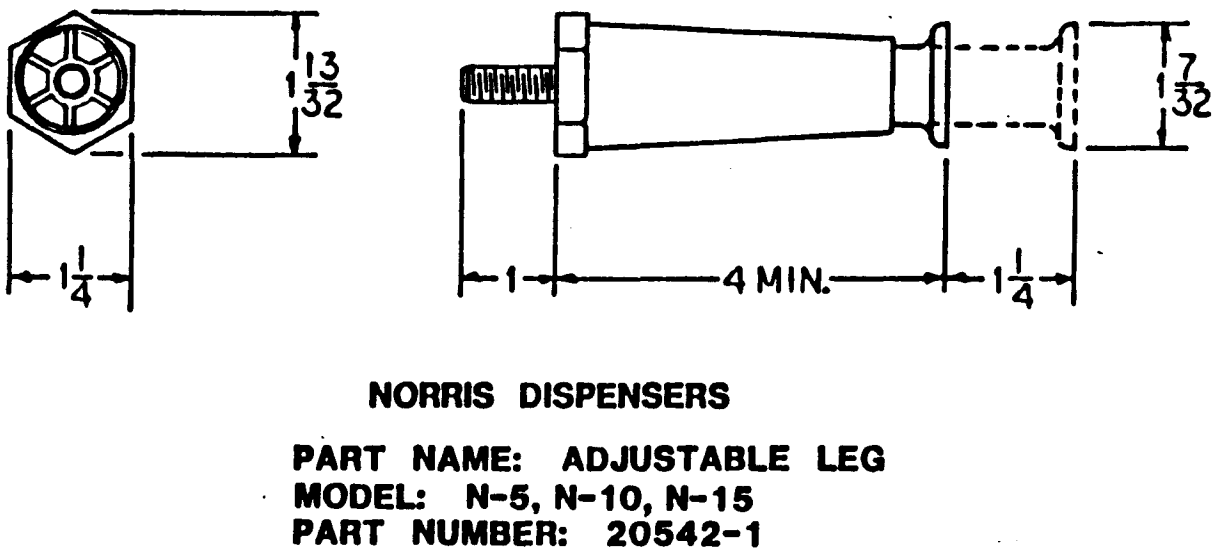
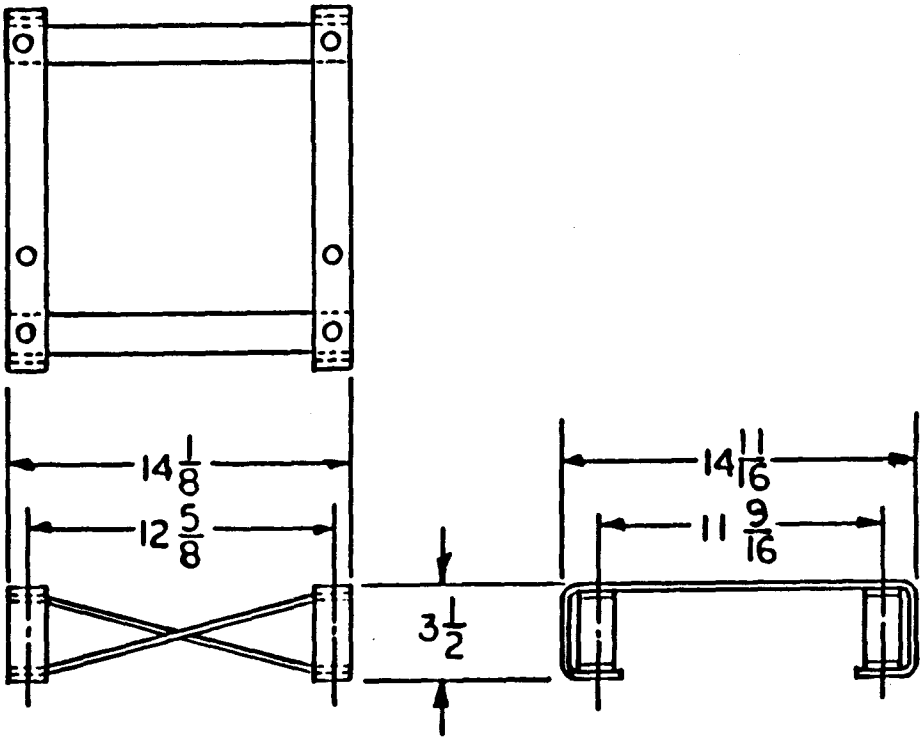


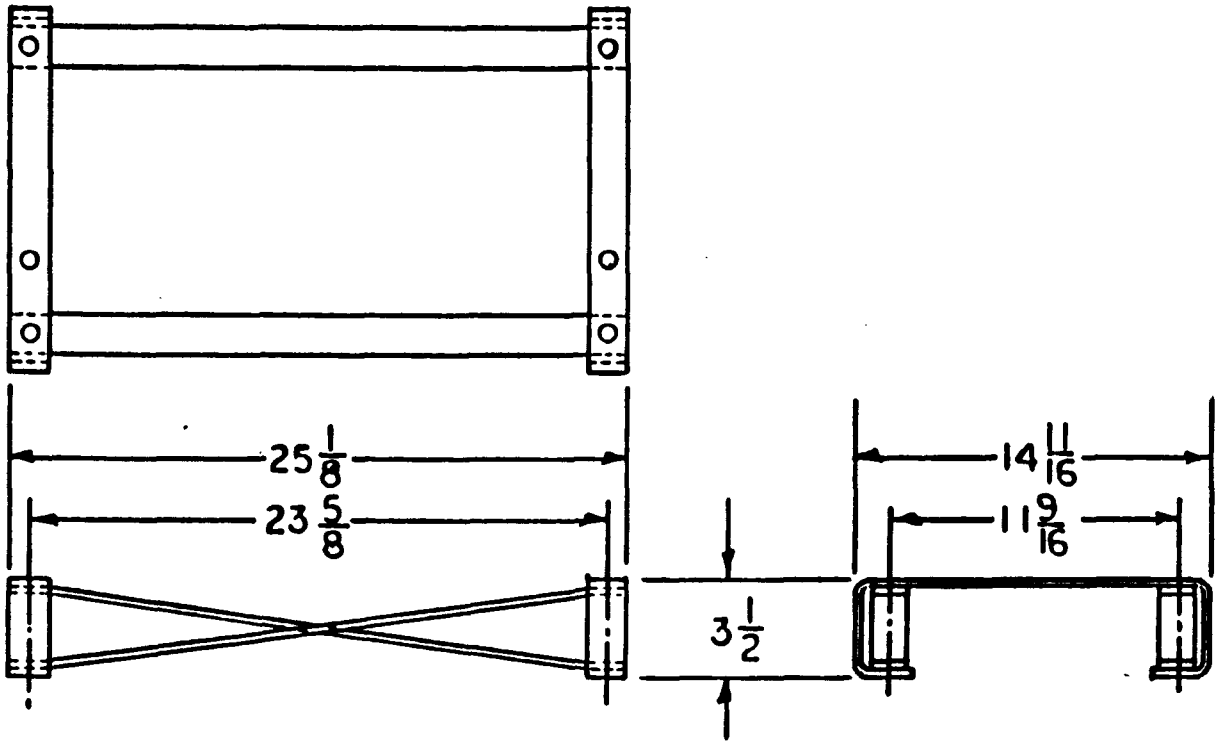
Figure 17 Adjustable Leg



NORRIS DISPENSERS

PART NAME: LEG ASSEMBLY (MARINE)
MODEL: N-5
PART NUMBER: 40278

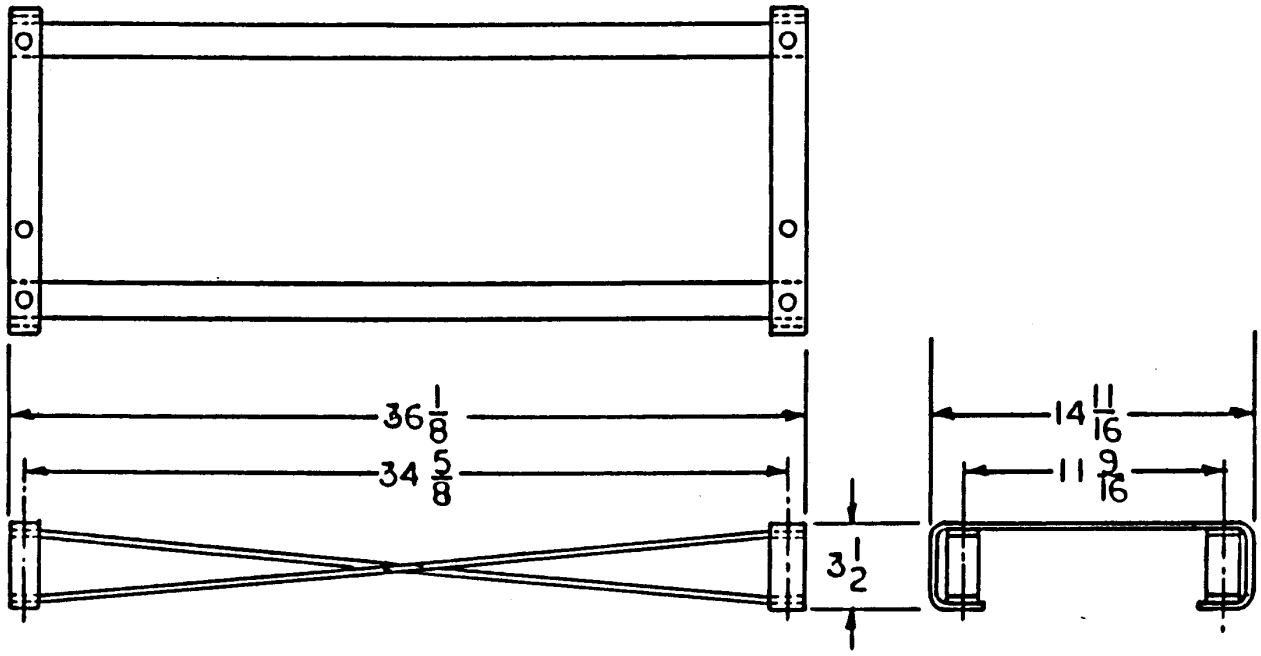
Figure 18 Leg Assembly-Marine



NORRIS DISPENSERS

PART NAME: LEG ASSEMBLY (MARINE)
MODEL: N-10
PART NUMBER: 40276

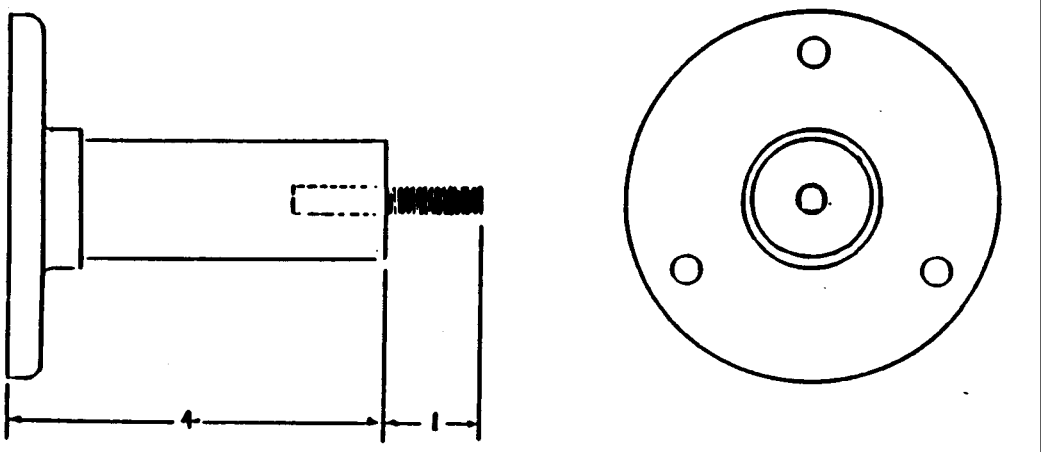
Figure 19 Leg Assembly-Marine



NORRIS DISPENSERS

PART NAME: LEG ASSEMBLY (MARINE)
MODEL: N-15
PART NUMBER: 40279

Figure 20 Leg Aaembly-Marine



NORRIS DISPENSERS

PART NAME: LEG
MODEL: N-10 R.L., N-15 R.L.
PART NUMBER: 21661

Figure 21 Leg

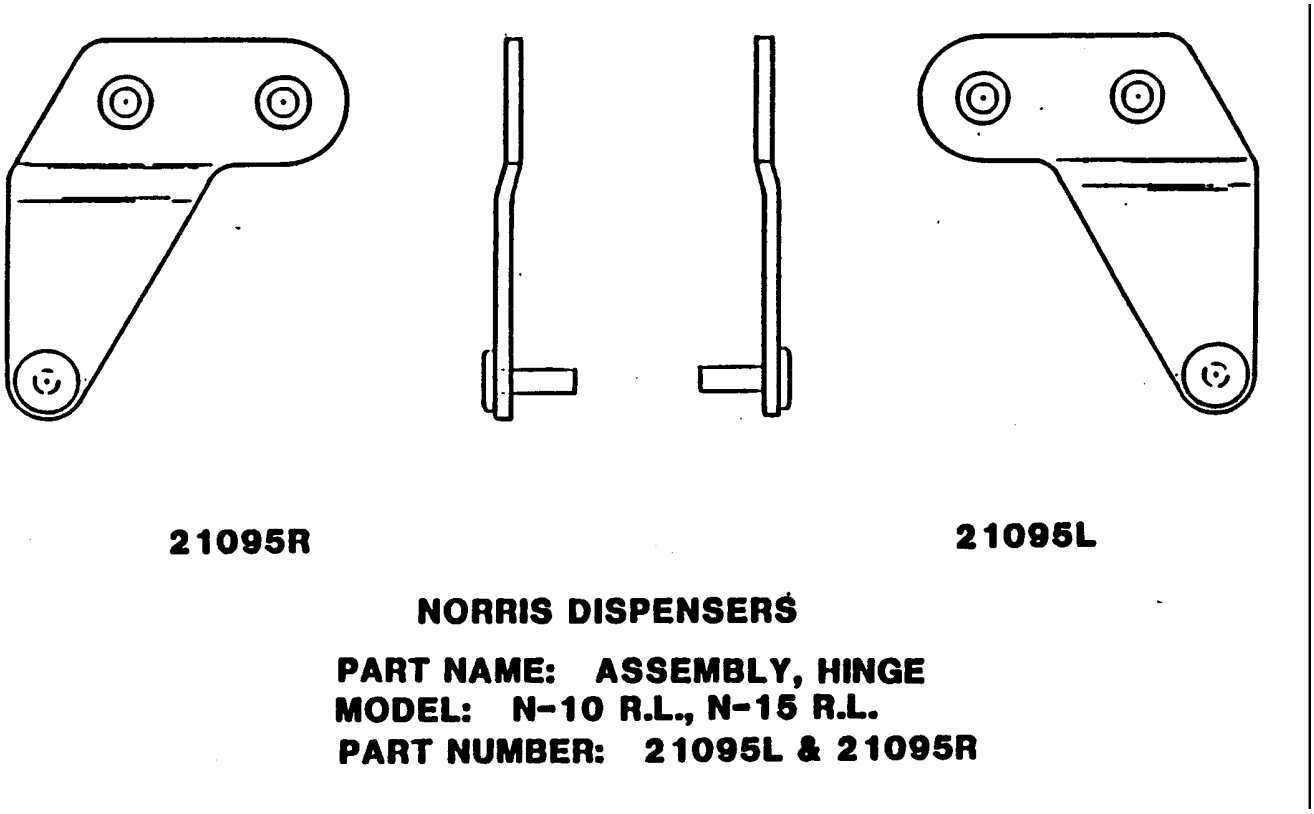
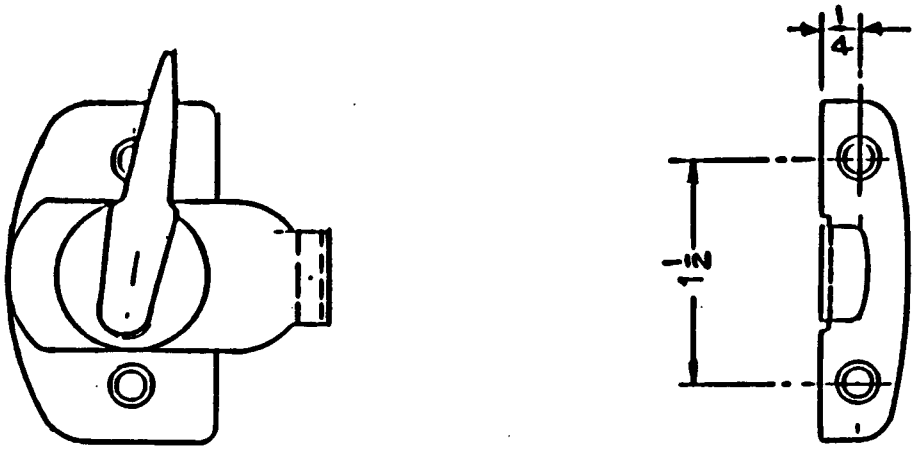


Figure 22 Assembly, Hinge

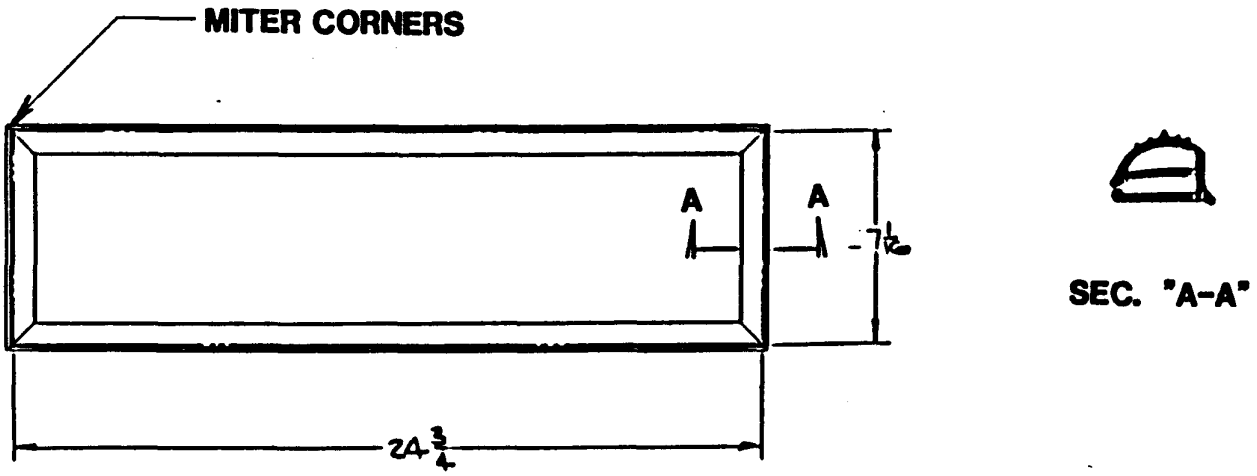


LATCH STRIKE

NORRIS DISPENSERS

PART NAME: STRIKE & LATCH
MODEL: N-10 R.L., N-15 R.L.
PART NUMBER: 20660

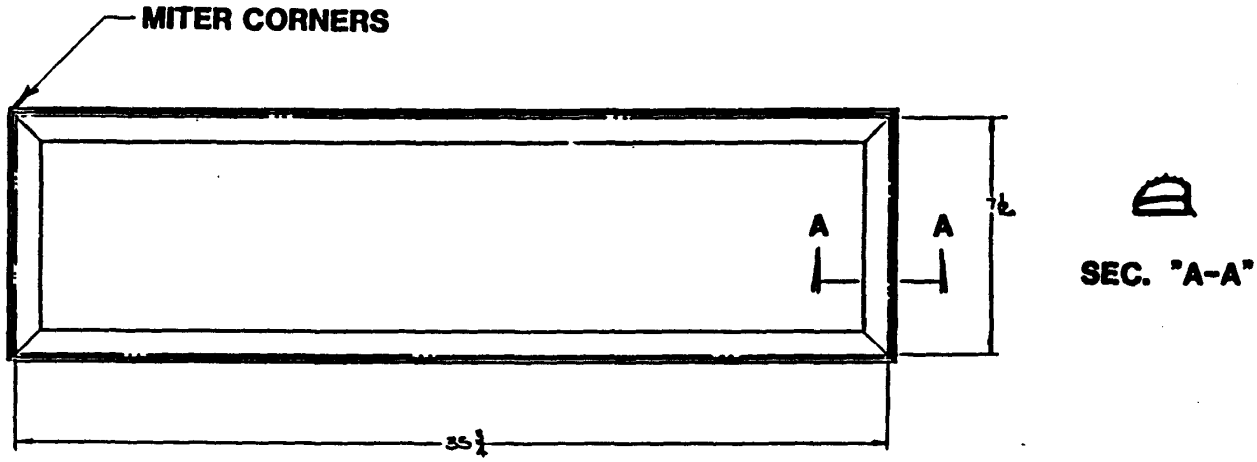
Figure 23 Strike & Latch



NORRIS DISPENSERS

PART NAME: DOOR GASKET
MODEL: N-10 R.L.
PART NUMBER: 21097

Figure 24 Door Gasket



NORRIS DISPENSERS

PART NAME: DOOR GASKET
MODEL: N-15 R.L.
PART NUMBER: 40475

Figure 25 Door Gasket

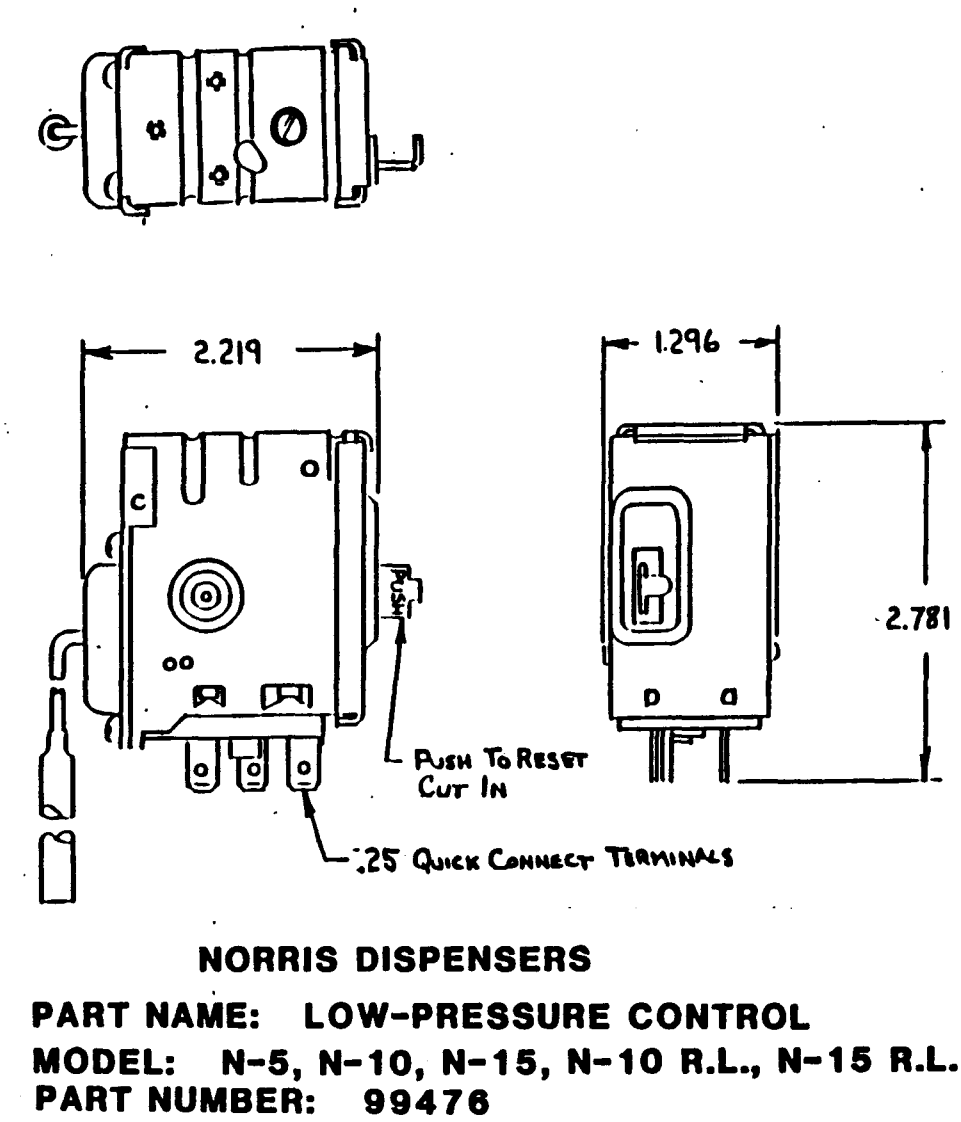


Figure 26 Low Pressure Control

2. Remove rear panel by taking out the screws on each side. After back is removed, dryer is readily accessible.

3. Remove dryer by melting solder connections on both ends, being certain that no excess solder remains on the tube ends to restrict flow of refrigerant after replacement is made. Solder can best be removed by the use of a torch.

CAUTION

BEFORE INSTALLING NEW DRYER BE SURE TO PURGE SYSTEM WITH NITROGEN.

4. After purging system, insert all tubes in replacement dryer, being certain that they go in a maximum distance of only 1/2″. Insertion beyond this point could possibly damage the screens inside the dryer and render it ineffective.

5. After soldering has been accomplished, pull vacuum on system and recharge with R-12 refrigerant.
6. Replace rear panel and dispenser is ready for use.
7.

NOTE

NEW DRYER SHOULD BE INSTALLED AFTER MAJOR COMPONENT HAS BEEN REPLACED. COMPRESSOR, CONDENSER, REFRIGERANT LEAK IN SYSTEM, ETC.

HIGH SIDE (CONDENSER)

1.

WARNING

Disconnect power source cord.

2. Remove rear panel.
3. Remove the four screws holding condenser coil to back of unit.
4. Remove and replace condenser, following same procedure as recommended for dryer replacement. (Remove solder, purge with nitrogen, resolder)
5. Pull Vacuum on system and recharge with R-12 refrigerant.
6. Replace rear panel.

COMPRESSOR

1.

WARNING

Disconnect power source cord.

2. Remove rear panel
3. Disconnect power source cord from compressor.
4. Remove the four spring clips and top cushion washers from compressor mounting studs.
5. Lift compressor upward and remove entire compressor-condenser coil assembly from cabinet being certain that coil is supported properly in its upright position.
6. Disconnect tubing (one at back - one in front) from compressor in same manner as recommended for dryer.
7. Re-connect new compressor to coil assembly in prescribed manner as for dryer.

8. Return entire assembly to proper place in cabinet, replace four spring clips and top cushion mount.
9. Pull vacuum on system and recharge with R-12 refrigerant.
10. Replace rear panel.

TEMPERATURE CONTROL.

1.

WARNING

Disconnect power source cord.

2. Remove rear panel
3. Remove temperature control knob.
4. The control is located on the right side as you face the back of the dispenser and is mounted to the inside of the exterior shell with two screws. Remove these screws. The control leads have two slip-on type terminals. Disengage these terminals by pulling downward.
5. Sensing element of the control enters the bottom of the dispenser to the evaporator through a tube well. Remove by carefully pulling downward.
6. Install the new control by reversing above procedure, being certain that the sensing element ″bottoms″ when fed into tube well.
7. Replace rear panel and control knob.

STARTING RELAY & OVERLOAD PROTECTOR.

1.

WARNING

Disconnect power source cord.

2. Remove rear panel.
3. Terminal box is mounted on rear of compressor and is easily accessible by removing the metal strap that holds the cover in place. With cover removed, replace starting relay and overload protector following the markings provided.
4. Replace terminal box cover, rear panel of dispenser, and reconnect to power source.

TEMPERATURE INDICATOR

1. Remove entire door from dispenser cabinet and place on work bench with back side up. Be certain that surface will not scratch or mar the door finish.

2. Remove door gasket and metal door liner by taking out the screws around the perimeter of the door.
3. Remove sensing tube and fiber glass insulation.
4. Disengage indicator by removing the C type bracket located on the back of the indicator. After removing the bracket, which is held in place by two machine nuts, the indicator will pull through the front of the door.
5. Install new indicator by reversing above procedure.
6. Reassemble door and put back in proper position on cabinet.